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Douglas NB-66B, 54-477 at Wright-Patterson AFB.

Stephen Miller via Dave Menard

Aerofax Minigraph 19

Douglas B-66 Destroyer

by René Francillon and Mick Roth

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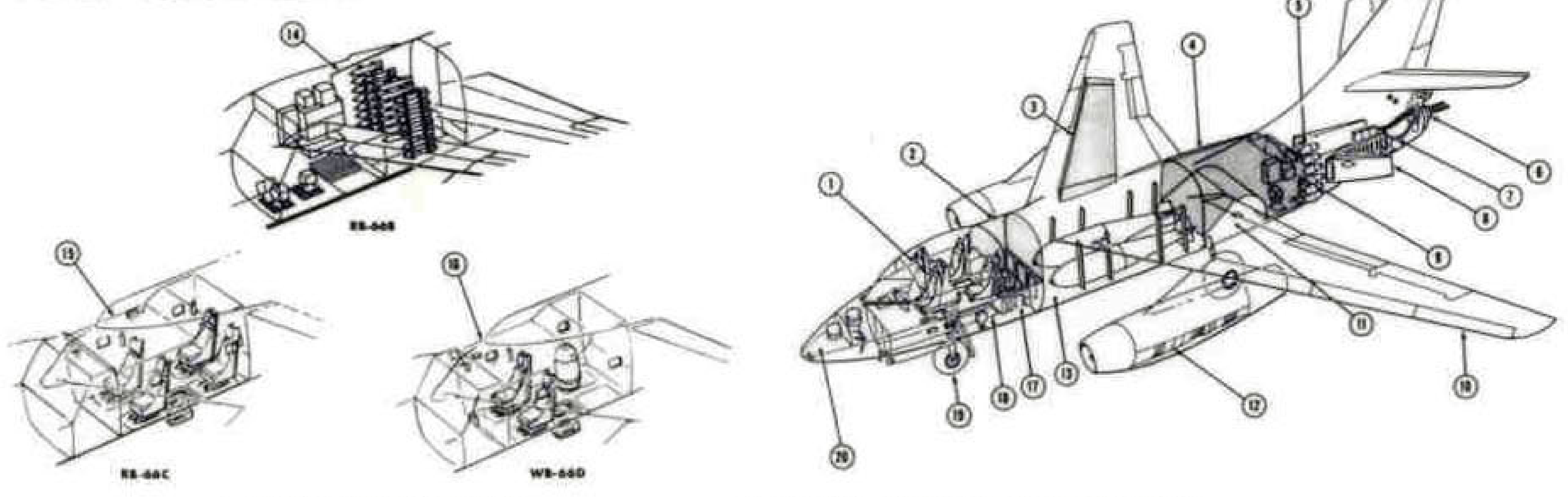

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THE DOUGLAS B-66 *DESTROYER* STORY

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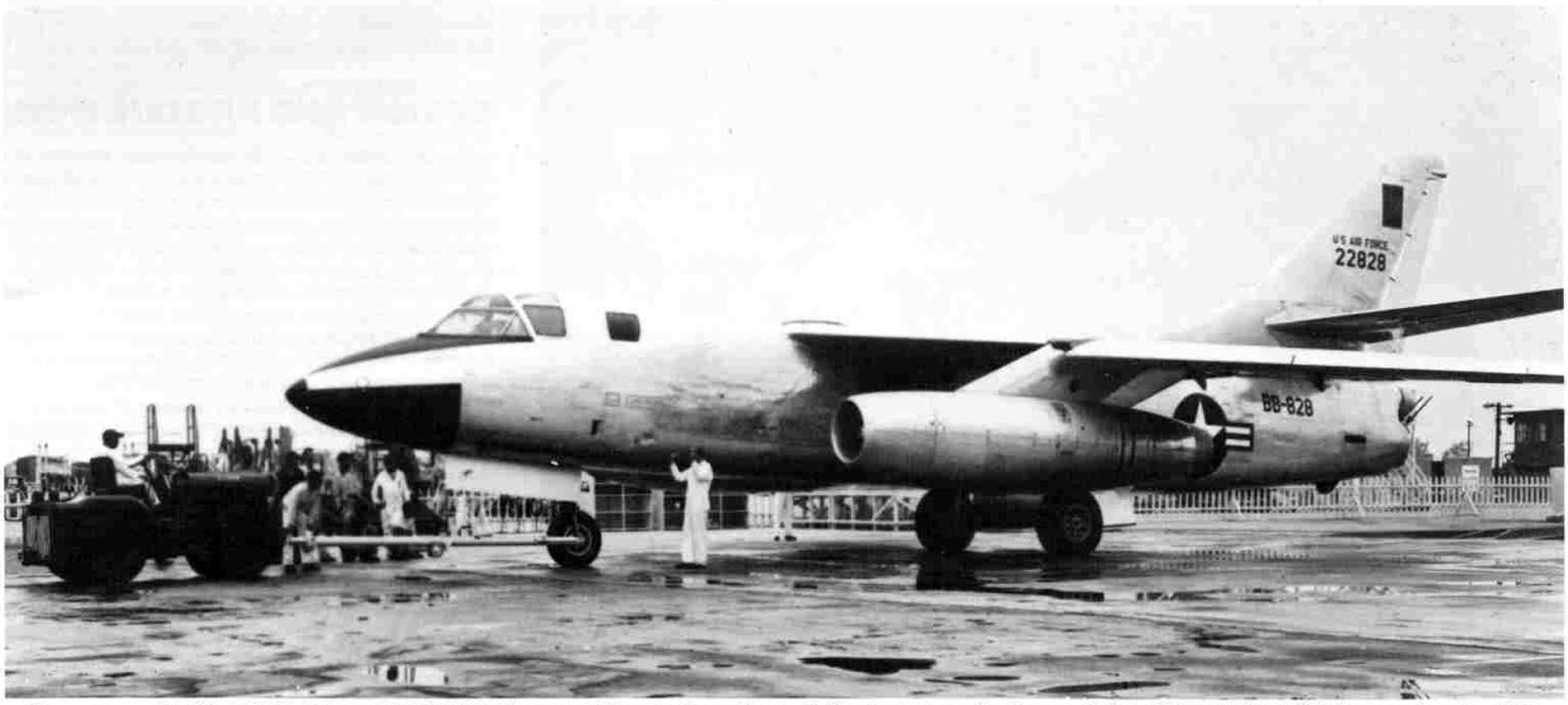

The prototype RB-66A, 52-2828, being pushed back on the ramp at Douglas' Long Beach, California plant shortly after completion. This aircraft was first flown on June 28, 1954, with company test pilot George R. Jansen at the controls and flight test engineer Robert Tafey in the crew compartment. The first flight was from Long Beach to the Air Force Flight Test Center at Edwards AFB. Noteworthy in this view is the prototype's canopy design, which differed considerably from that found on production aircraft.

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PROGRAM HISTORY:

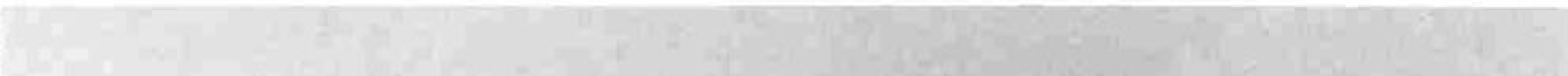
During the last year of WWII, after much delay following the first flight of the prototype on July 10, 1942, the AAF introduced into service the ultimate American piston-engine attack bomber, the Douglas A-26 *Invader*. By that time, it also had initiated the development of several jet-powered attack aircraft (the Curtiss XA-43 and Consolidated XA-44) and a jet-powered light bomber (the Douglas XB-43). The XA-43 and XA-44 were cancelled at the end of the war prior to completion of the prototypes, and only two XB-43s were flown. When the AF was organized during 1947, the only attack/light bomber aircraft were Douglas A-26s (soon to be redesignated B-26) equipping active AF, reserve, and guard squadrons. Thus, with the onset of fighting in Korea during June 1950, an urgent need for a B-26 replacement was immediately created. As an interim measure, the Air Materiel Command authorized the purchase of 250 Martin B-57s (license-built English Electric *Canberras*) with FY51 funds. Mid-term requirements were to be met by the winner of the RBL-X (Reconnaissance Bomber/Light Tactical Bomber Experimental) competition which the AF initiated on June 14, 1951. Long-term requirements were to be fulfilled by either a Douglas or a Martin design for the 302A Weapon System.

The RBL-X was conceived as a very fast and highly maneuverable aircraft capable of performing well at both low and high altitudes and of having a combat radius of 1,000 n. miles (1,850 km.). Other requirements included: (1) provision for all-weather operations, including anti-icing equipment; (2) a bomb bay sized for a 10,000 lb./4,546 kg. atomic bomb; (3) defensive armament and active DECM; (4) a field length of less than 6,000 ft./ 1,380 m.; and (5) the ability to carry large amounts of electronic equipment without performance degradation. Distinct versions of the RBL-X were planned for the tactical bombing and night photographic reconnaissance roles. Versions tailored for the electronic and weather reconnaissance missions later were added. By wanting the RBL-X to be in service during 1954, the AF virtually excluded the possibility of tendering new designs—thus unintentionally giving to Douglas Aircraft Company, Inc. of California a good shot at winning the competition.

In its XA3D-1 carrier-based heavy attack aircraft, which had been ordered by the Navy during July 1949, and which was scheduled to fly during August 1951, Douglas believed it had a design which, with relatively minor modifications, could meet the AF's RBL-X requirements. Accordingly, the company elected to submit a proposal and, to enhance its chances with the AF and equalize the workload in its various facilities, entrusted the redesign work to an AF-oriented team working in the company's Santa Monica, California plant. This team was led by John C. Buckwalter rather than Edward H. Heinemann who, with his Navy-oriented team, had designed the XA3D-1 at the El Segundo plant. Likewise, if awarded an AF contract, Douglas planned to have the aircraft built in the AF-controlled Long Beach plant instead of the Navy-controlled El Segundo plant.

Along with the Douglas RBL-X proposal submitted on August 24, 1951, the AF evaluated submittals for modified versions of four U.S. aircraft. These included the Boeing B-47 *Stratojet*, the Martin B-57B *"Super Canberra"*,[1] the Martin XB-51, and the North American B-45 *Tornado*. Additionally, one other British aircraft (besides the *Canberra*), the Vickers *Valiant*, was entered.

AFFTC/USAF via Richard Hallion



RATO tests, utilizing the first RB-66A, 52-2828, were conducted at Edwards AFB during 1955. In this view, 8 Aerojet 15KS-1000 solid fuel rocket bottles are seen boosting the aircraft into the air. A total of 12 bottles, generating 12,000 lbs. th. for 15 seconds could be utilized for maximum takeoff weight operations.

[1] Although unofficially bearing the B-57B designation, the *"Super Canberra"* virtually was a new design using a much modified B-57A fuselage, the rotary bomb bay and T-tail surfaces of the XB-51, and all-new, swept wings. The B-57B designation later officially was assigned to the fully Americanized version of the *Canberra* which retained much of the airframe of the British-designed aircraft while being characterized by a new cockpit with tandem accommodation.

MDC

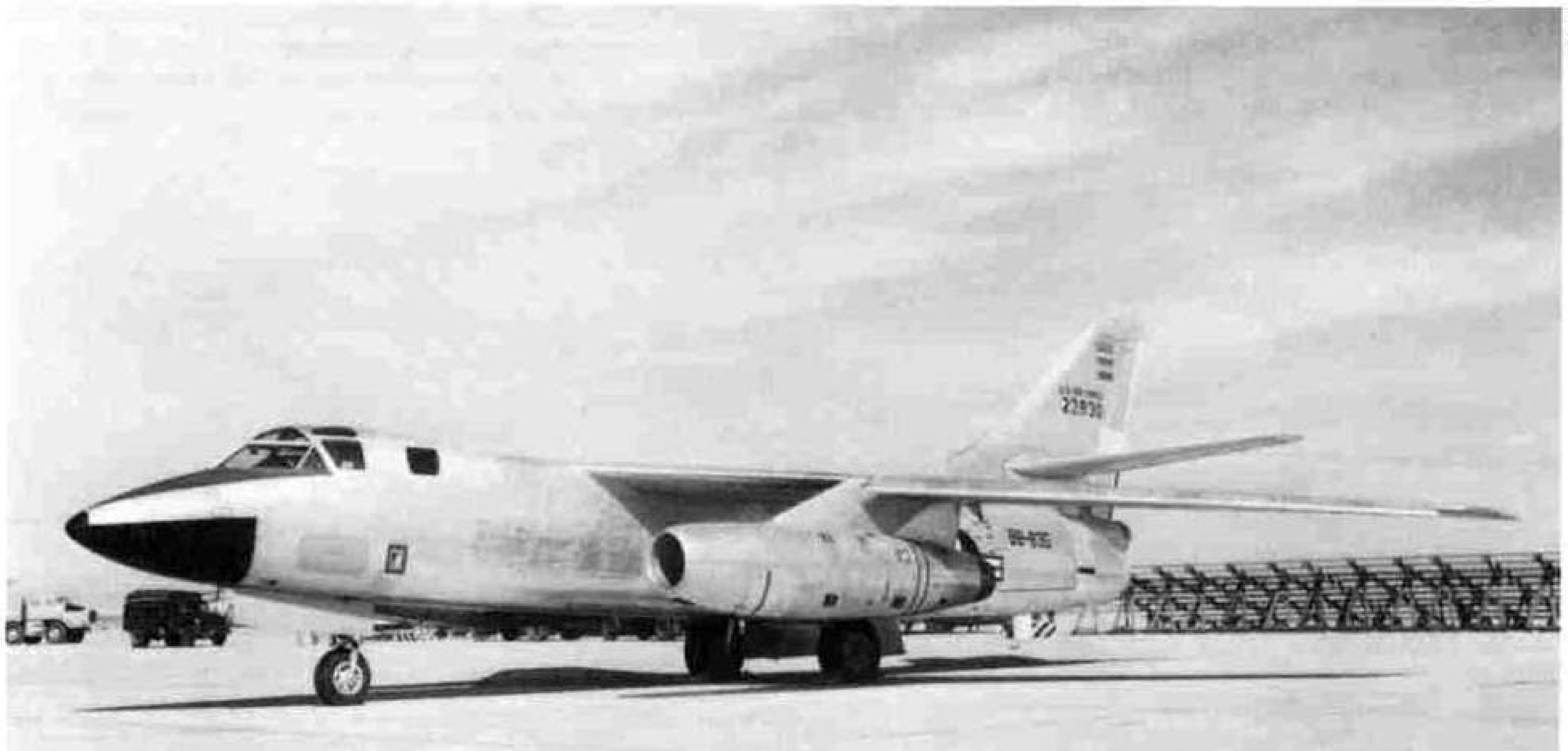
Only 72 B-66s were built in Douglas' Tulsa, Oklahoma plant. The aircraft in the foreground is the first WB-66D, 55-390. Boeing B-47s, also built by Douglas, are visible in the left background. Later, many "Destroyers" were cycled back through the Tulsa facility for updating and modification.

At first placing emphasis on selecting an aircraft for use in the tactical night reconnaissance role, the evaluation committee judged the improved B-45 too slow and requiring excessive logistical support, the *"Super Canberra"* and XB-51 too small to carry the required equipment and armament, and the B-47 and *Valiant* too expensive and unsatisfactory for low altitude missions. Conversely, the modified A3D-1 appeared to the committee as the most promising, at least on paper. Unfortunately, because the first flight of the Douglas XA3D-1 had been delayed until, at best, June 1952, lack of data on the aircraft's stability and control characteristics worried some of the RBL-X program evaluators.

During October 1951, ARDC recommended the B-47 be considered for high-altitude operations and the B-51 for low-altitude. During the following month, however, the AF Aircraft and Weapons Board came out in favor of a TAC version of the A3D-1 incorporating the following changes:

1. Addition of anti-icing provisions to give the aircraft a night, all-weather capability.
2. Installation of upward exiting crew ejection seats—necessary for the high-speed, low-altitude mission of the aircraft.
3. Strengthening of the airframe structure to increase the load factor from 2.67 g to 3.67 g, due to the need to cope with the greater stress of low-altitude high-speed operations.
4. Use of a 45-inch radar dish instead of the A3D-1's 30-inch unit to provide greater radar range capability.
5. Elimination of carrier operation provisions, such as folding wings, catapult equipment, and arresting gear.

On January 12, 1952, AF Headquarters informed the AMC that the modified A3D had been chosen to fulfill the reconnaissance requirements, with photographic capability to be installed from the onset and electronic reconnaissance and countermeasures capabilities to be added as soon as feasible. This choice was confirmed on February 4 when the AF issued Letter Contract AF 33(600)-9646 for the procurement of five RB-66A development aircraft[2] and tooling for the production of up to 342 aircraft at a peak rate of 12 aircraft per month. The development aircraft were scheduled to be delivered commencing 24 months later and were to be immediately followed by 127 production RB-66As ordered on April 24, 1952. This schedule, unfortunately, quickly fell by the wayside as the development and production of the B-66 became one of the worst managed of the then many ongoing AF programs. The original intent to procure a minimum-change version of the Navy A3D-1 quickly was forgotten and, with change following change at a furious pace, delays mounted and costs soared. Worst of all, the aircraft as finally procured by the AF never proved as reliable as the long-serving *Skywarrior* and its only genuine improvement over its forebear was its use of ejection seats in place of the A3D's slide escape system.



MDC

RB-66A (seen as JRB-66A), 52-2830, the third "Destroyer" off the Long Beach production line, with the original canopy configuration and associated large aft cabin transparency. Straight aluminum finish and minimal markings are noteworthy, though typical of early B-66s as the type was introduced into the AF inventory.

DESIGN AND PRODUCTION:

Set up by AMC and ARDC on February 4, 1952, the B-66 (designation assigned January 12, 1952) Weapons System Program Office almost immediately began issuing changes as the AF required that the B-66 be designed in accordance with its *Handbook of Instructions for Aircraft Designers*. Moreover, other requests for modifications were issued during the balance of that year as more changes and improvements were integrated to meet new AF requirements and to correct perceived deficiencies in design and layout. Changes implemented during the design of the RB-66A included (1) modification of the wing planform through an increase in the root section chord length; this resulting in an extension of the trailing edge and revision of the flap geometry (total flap area was increased from 82.4 sq. ft./7.65 m² on the A3D-1 to 108.8 sq. ft./10.11 m² on the B-66); (2) use of wing spoilers for improved lateral control[3] and changes to the wing incidence to improve dutch roll characteristics; (3) complete revision of the aircraft's hydraulic system; (4) redesign of the cockpit with the pilot sitting forward (to the left) and the bombardier/photo-navigator and gunner sitting side-by-side behind the pilot[4]; (5) greater cockpit pressurization; (6) use of larger tires with reduced inflation pressure; (7) thorough revision of the fuel system together with addition of a fuel purge system and an inflight refueling probe-drogue system; (8) substitution of a General Electric A-5 Fire Control System for the Navy *Skywarrior's* Westinghouse Aero 21B system; (9) modification to the speed brakes actuating mechanism; (10) installation of AF electronic and communication equipment in place of Navy items; (11) substitution of a 40 KVA electric system for the Navy's 20 KVA system; and (12) installation of the Universal Camera Control System.

With all these changes, a virtually new airplane emerged. Not only were several systems and items of equipment different from those fitted to the RB-66's Navy forebear, but the RB-66 and A3D-1 differed even in their external appearance. The RB-66's nose had been widened and its radome reshaped to accommodate the AN/APS-64 radar and its 45 inch (1.14 m) dish antenna; its cockpit and canopy had been widened and lengthened to provide space for the ejection seats; its tail cone had been reshaped to house the MD-1 fire control system; and its wing planform, incidence, and dihedral had been changed.

The basic B-66 configuration occasioned still further changes. The bomb bay was lengthened 17.5 inches (0.44 m) to accommodate AF bombs, the capacity of the aft fuselage tank was increased, provision was made for 450 gallon (1,703 liter) external drop tanks, and maximum gross weight was increased to 83,000 lbs. (37,650 kg.). As every effort was made to keep the bomber and reconnaissance versions as similar to each other as possible to facilitate interchangeability, many of these requirements were incorporated into the RB-66 as well as the B-66.

Originally the AF had intended to power the B/RB-66 with a version of the Westinghouse J40 turbojet utilized in the Navy's XA3D-1. However, development progress with the 7,250 lb. (3,290 kg.) thrust J40-WE-5 soon cast dobts on the engine's ability to give the B-66 the required radius of action and performance. Therefore, on May 17, 1952, AMC initiated a competition to obtain a more satisfactory engine. Four engines eventually were considered in this competition, these being the Westinghouse J40, the Pratt & Whitney J57, the Allison J71, and the General Electric J73. The higher thrust offered by the three other types soon eliminated the J40 from contention and the J57 was quickly dropped as it already was in great demand to power other aircraft. In the end, on June 23, 1952, the J71 was selected on the basis of its guaranteed performance, its production availability, and its development status. As it turned out, the latter was not as advanced as had been assumed.

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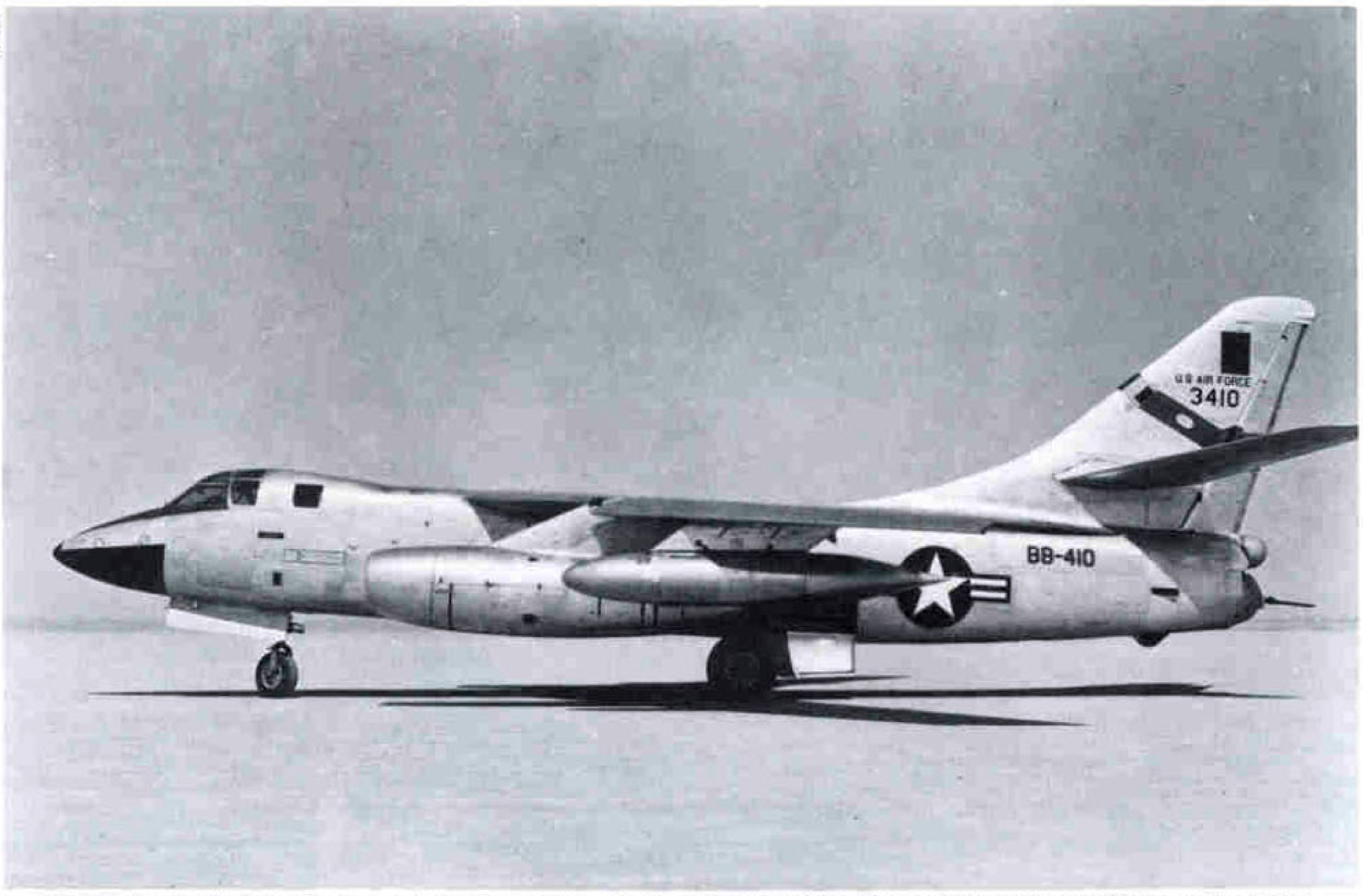
[2] No prototypes were ordered, as the RB-66A then was envisioned as a minimum change version of the Navy A3D. However, AF Headquarters briefly considered procuring two A3D-1s to accelerate development of its new tactical reconnaissance bomber. AMC, which maintained the opinion that the A3D-1s would be of limited use, finally prevailed and the two Navy-configured aircraft were not ordered.

[3] Wing spoilers, not initially fitted to the *Skywarrior*, later were added to the A3D-1 during the course of production.

[4] In the basic A3D configuration, the pilot sat in the left-hand seat with the bombardier-navigator to his right; the gunner sat back-to-back with the pilot on an aft-facing seat.



USAF

The second RB-66B, 53-410, at Edwards AFB on September 13, 1955. This aircraft retained the original canopy configuration of the first few prototypes and pre-production aircraft. Visible suspended from the wing pylon is one of the jettisonable, seldom-used 450-U.S. gal. (1,703-liter) external fuel tanks.

Development of the 9,570 lb. (4,341 kg.) thrust J71-A-9, the version originally intended to power the B/RB-66, soon ran way behind schedule; its 50 hour and 150 hour qualification tests were completed only during October 1953 and June 1954, respectively—many months behind promised completion dates.

Notwithstanding the completion of these tests, the J71 was not yet out of the woods. The J71-A-9 version still suffered from several deficiencies, these including slow acceleration, flame-out, poor stall characteristics, and surge. To correct these, Allison substituted an eight-stage instead of sixteen-stage bleed and made other minor changes to obtain the 9,700 lb. (4,400 kg.) thrust J71-A-11s which were factory-installed in the 18th B-66B and the 21st RB-66B and retrofitted to earlier aircraft. However, the J71-A-11 still tended to stall or surge under high acceleration conditions and Allison was forced to make further improvements. The resulting 10,200 lb. (4,627 kg.) thrust J71-A-13s were installed in the last 16 B-66Bs, 17 RB-66s, and 36 WB-66Ds and later replaced J71-A-11s in most other *Destroyers*. Even in its -13 configuration, the J71 remained difficult and expensive to maintain and proved to have a high noise level. The latter resulted in excessive sonic vibration which, in turn, created a serious acoustically induced fatigue airframe problem, this particularly affecting the flight surfaces and vertical stabilizer areas.

In spite of numerous program changes and the late delivery of flight rated YJ71-A-9 engines, Douglas succeeded in having the first RB-66A ready to commence flight trials during the late spring of 1954, some 29 months after winning the RBL-X competition. With George R. Jansen at the controls, 52-2828, first was flown on June 28, 1954, reaching a top speed of 202 knots (374 kmh) and an altitude of 17,000 ft. (5,180 m) during a ferry flight from Long Beach to Edwards AFB. Although terminating safely, this flight could only be regarded as moderately successful as the landing gear doors could not be fully closed, vision from the canopy was found to be poor, and flight controls were judged unsatisfactory.

Succeeding flight tests at Edwards revealed that high friction forces existed in the elevator, rudder, and aileron controls; stick-free stability was lacking; control chatter was excessive; control of the airplane during emergency manual flight was marginal; and rudder control and longitudinal trim were too complex. While numerous control changes were engineered to correct these deficiencies and later were demonstrated to be effective during contractor and AF tests, the maximum speed at which RB-66A/B-66B/RB-66B development aircraft could be flown was limited between August 1954 and May 1955 to Mach .89 above 13,000 ft. (3,900 m) and to 455 KIAS (840 kmh) below that altitude.

Other significant difficulties encountered during the flight test program included buffet, pitch-up, flutter, and excessive landing roll. Buffet began at 180 knots (333 kmh) and increased in intensity, so that speeds over 240 knots (445 kmh) were felt to be unsafe. This condition, which was found both in the tail section and wing pylons, eventually was corrected through a general airframe stiffening and tightening and by revising pylon trailing edge configurations and extending side tail fairings. Pitch-up was eliminated by revising the outboard leading edge slats so that they would remain open five degrees to provide longitudinal stability at high speeds. Flutter, which appeared at 400 KIAS (704 kmh) when wing tanks were empty, was the most frustrating problem and could only be solved by adding 350 lb. (159 kg.) weights to each wing tip. Finally, minimum landing roll was reduced from 5,000 to 3,000 ft. (1,525 to 915 m) by using an anti-skid device and installing a drag chute.

As if all the teething troubles and technical changes were not enough to cause production delays and cost overruns, the AF magnified the problem by spreading B-66 work among several Douglas plants in spite of the relatively small number of B/RB/WB-66s ordered. Although manufacture of five RB-66As, 72 B-66Bs and 145 RB-66Bs did proceed as planned in the Long Beach plant, the AF felt that Douglas then had insufficient tooling and engineering staff in Long Beach to undertake production of the RB-66Cs and WB-66Ds in this southern California facility. On the other hand, the government-owned, Douglas operated plant in Tulsa was scheduled to run out of work after completing its last Boeing B-47 during 1955. Accordingly, 72 RB-66Cs and WB-66Ds were built in Tulsa, with Douglas interplanting 20 to 25 percent of the B/RB-66B work to Tulsa (including wing fabrication) and 15 percent of the RB-66C/WB-66D work to Long Beach. In the end, spreading the overhead costs of two plants over only 294 aircraft, as well as other factors (e.g., proliferation of versions, changing AF requirements, and Douglas' excessive use of overtime and unsatisfactory cost control procedures), resulted in a 45 percent increase in average unit price, from $1,566,525 to $2,263,625 per aircraft.

Both the AF and Douglas later were severely criticized for badly managing the B-66 program. However, in comparison with the Navy's A3D program, the B-66 program was quite satisfactory: although the first RB-66A flew 20 months after the XA3D-1, the *Destroyer* entered service two weeks before the *Skywarrior*. Furthermore, the 294th and last *Destroyer* was accepted three years before the 283rd and last *Skywarrior*.

DESTROYER VARIANTS:

Douglas produced five variants of the *Destroyer*; and other versions obtained were later by modifying existing airframes. A requirement for a sixth production variant, a dual control trainer, had been identified during February 1954, as the AF planned tentatively to assign two TB-66 transition trainers to each operational squadron. Difficulties in modifying the B-66 to provide adequate forward visibility for the instructor pilot led the AF to cancel this requirement. The variants can be broken down as follows:

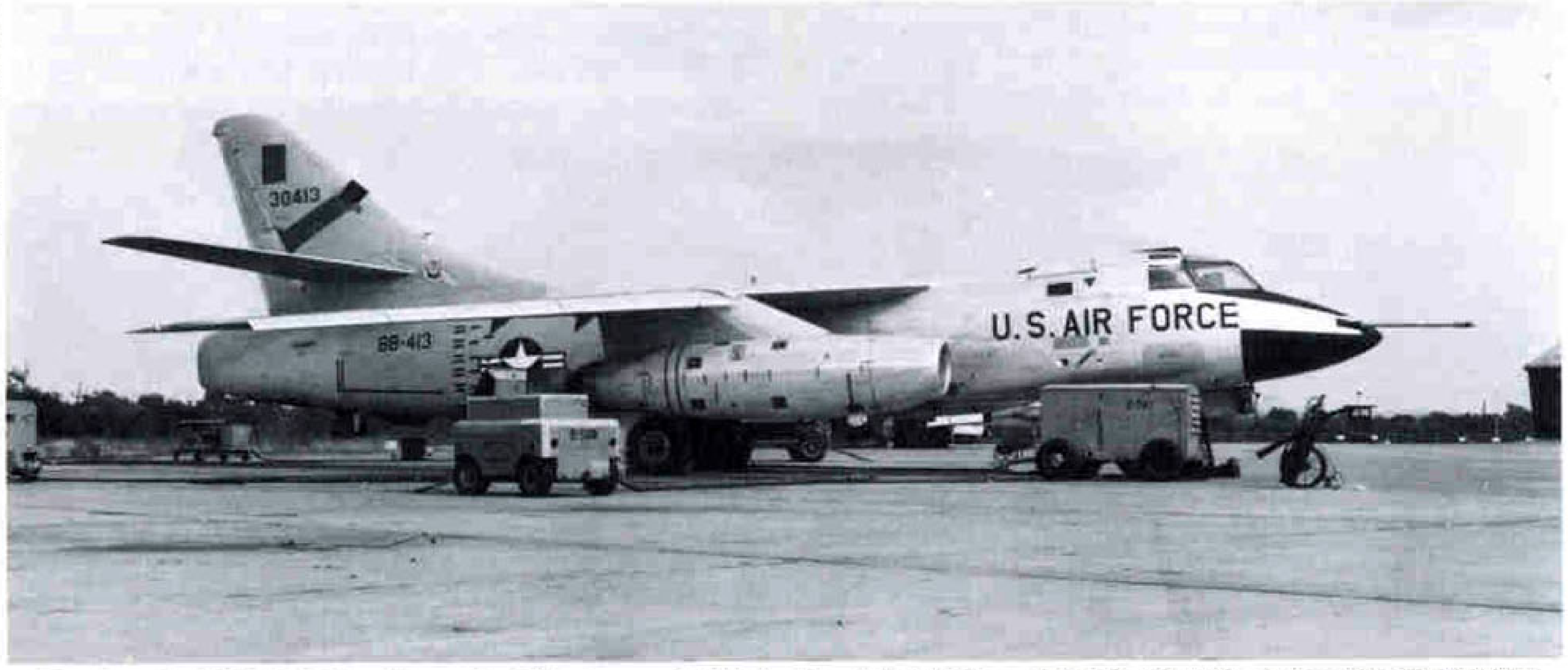
RB-66A (Douglas Model 1326): Powered by two 9,570 lb. (4,341 kg.) th. YJ71-A-9 turbojets, the five RB-66As were used only for test and development purposes. Following the signing on February 12, 1952, of a letter contract for five RB-66As, the mock-up for this version was inspected during July 1952, the first flight was made on June 28, 1954, and the last RB-66A was accepted on December 8, 1954.

B-66B and EB-66B (Douglas Model 1327): The first of 72 B-66Bs was ordered through a change order substituting 26 bombers for 26 RB-66Bs previously included in the first production contract. The bomber mock-up was inspected during February 1953. The first B-66 flew on January 5, 1955 and the last B-66B was accepted on September 18, 1957.

The first 17 B-66s were powered by 9,570 lb. (4,341 kg.) th. J71-A-9s, the next 39 had 9,700 lb. (4,400 kg.) th. J71-A-11s, and the final 16 B-66Bs received 10,200 lb. (4,627 kg.) th. J71-A-13s. Early production aircraft were retrofitted first with -11 engines and then with -13s, while -13s also were retrofitted to aircraft which had been delivered with the intermediate J71-A-11s.

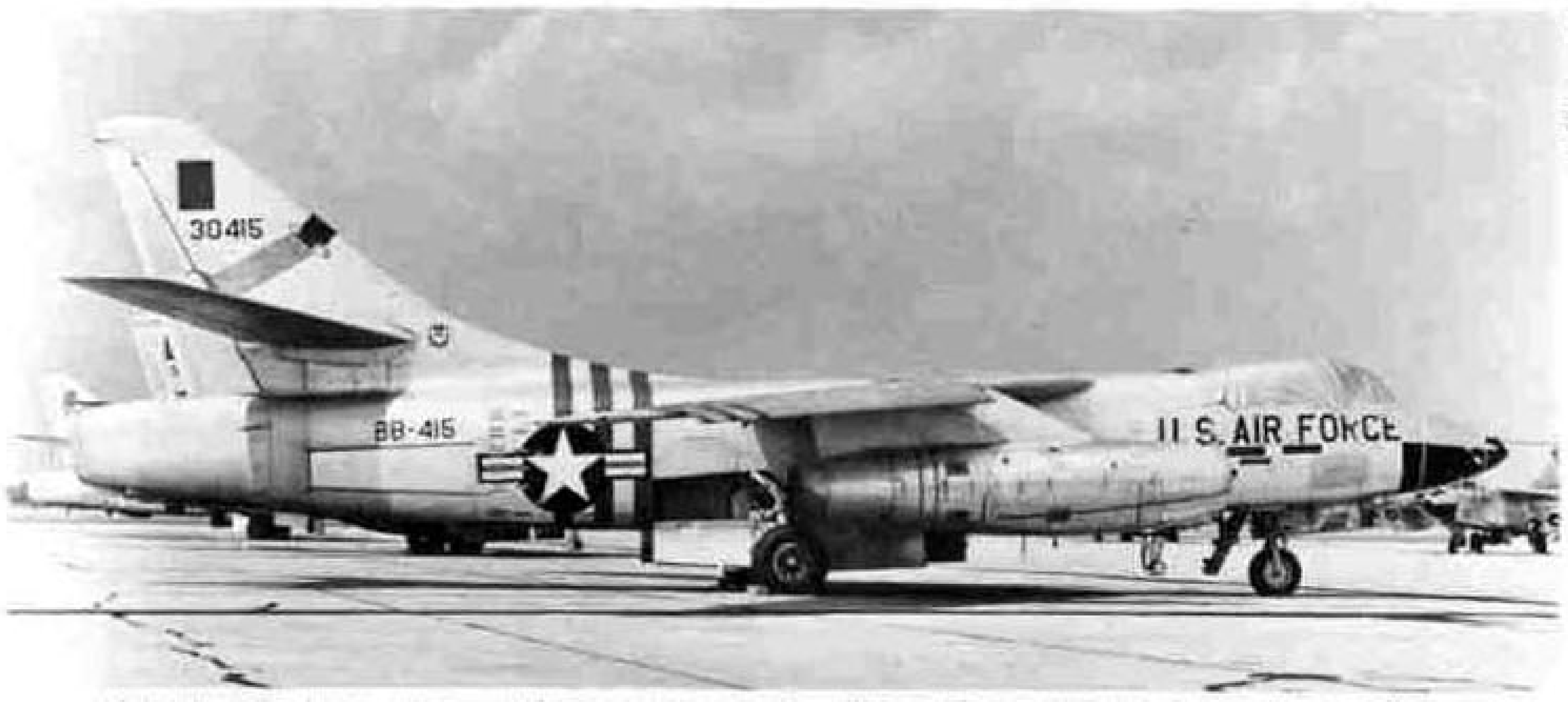
Although ARDC had favored temporarily fitting the B-66B with an existing AN/APQ-24 bombing-navigation radar pending availability of the MA-2 Bomb Director-High Speed Aircraft, a radically new design then under development, coupled with cost and scheduled considerations, led the AF to specify the Western Electric K-5 system that had been derived from the AN/APQ-24 for all B-66Bs. Unfortunately, this cost-cutting decision proved ill-advised as the K-5 system did not permit the B-66B to loft bombs with the accuracy specified by the AF.

With its larger and more accessible bomb bay, the B-66B could carry a wider range of bombs than the AF's other tactical bomber, the Martin B-57B. The principal nuclear bombs carried were the Marks 5 and 6, but the B-66B could carry other types of special and conventional weapons up to a maximum load of 15,000 lb. (6,804 kg.). To facilitate bomb separation from the airplane, the B-66B initially was fitted with a deflector-diffuser similar to that



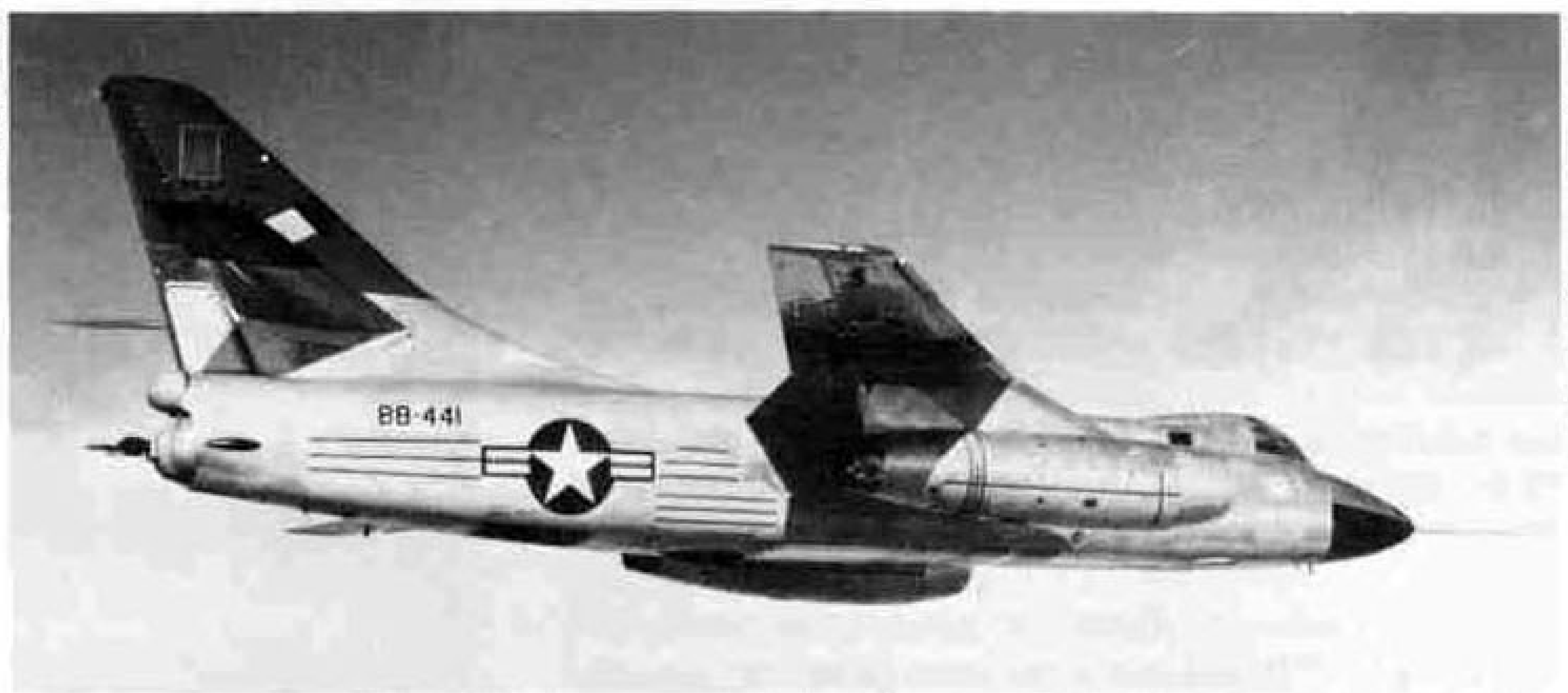
Nick Williams collection

Bearing the TAC shield on its vertical fin, forward of its horizontal stabilizer, RB-66B, 53-413, of the 16th TRS/363rd TRW, modified to incorporate the empennage configuration typical of ECM-system-equipped "Destroyers", sits on the ramp at Shaw AFB on October 24, 1964. The inflight refueling probe also was a late modification.



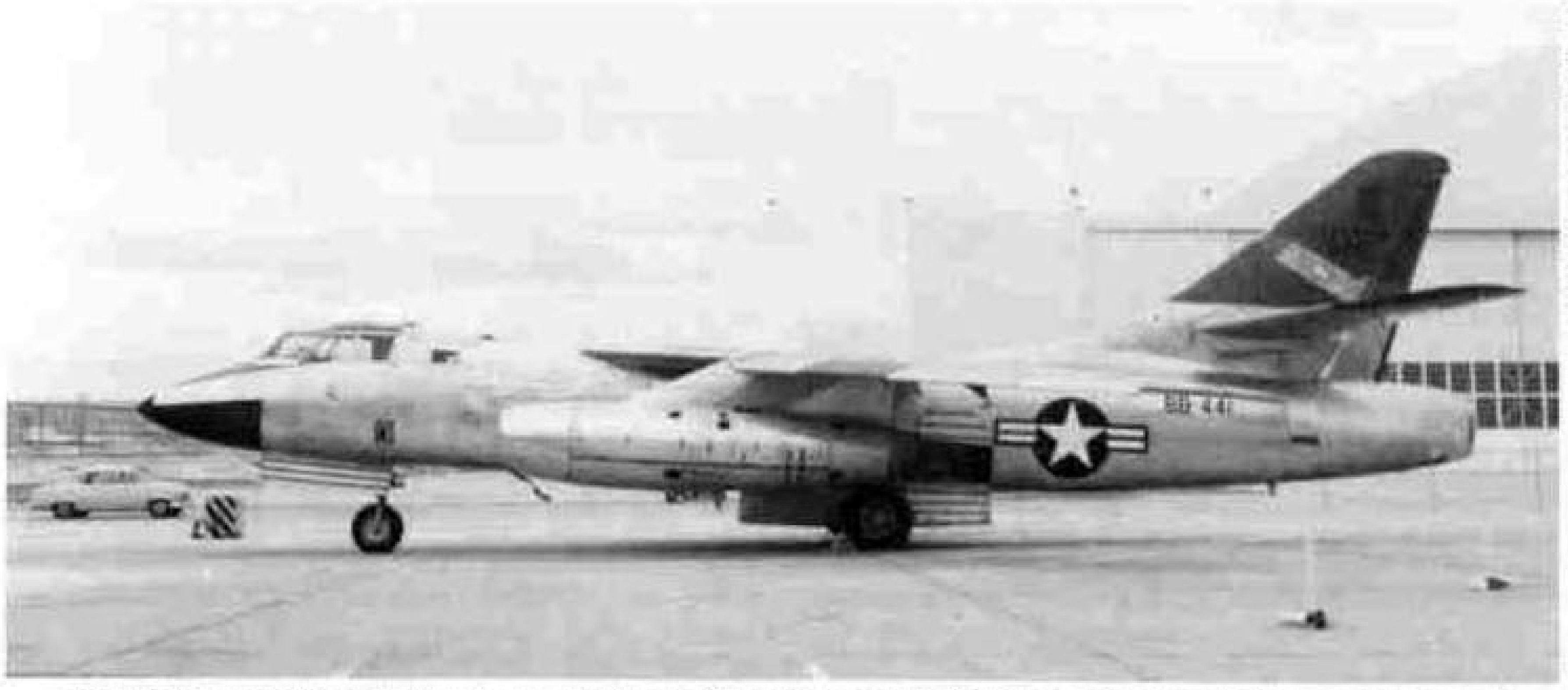
Norm Taylor

RB-66B, 53-415, of the 4487th Test Sqdn., 363rd TRW (Recon.), at Eglin AFB on September 4, 1964. Early empennage fairing for EW equipment is noteworthy, as are faired RATO bottle attachment points on fuselage side.



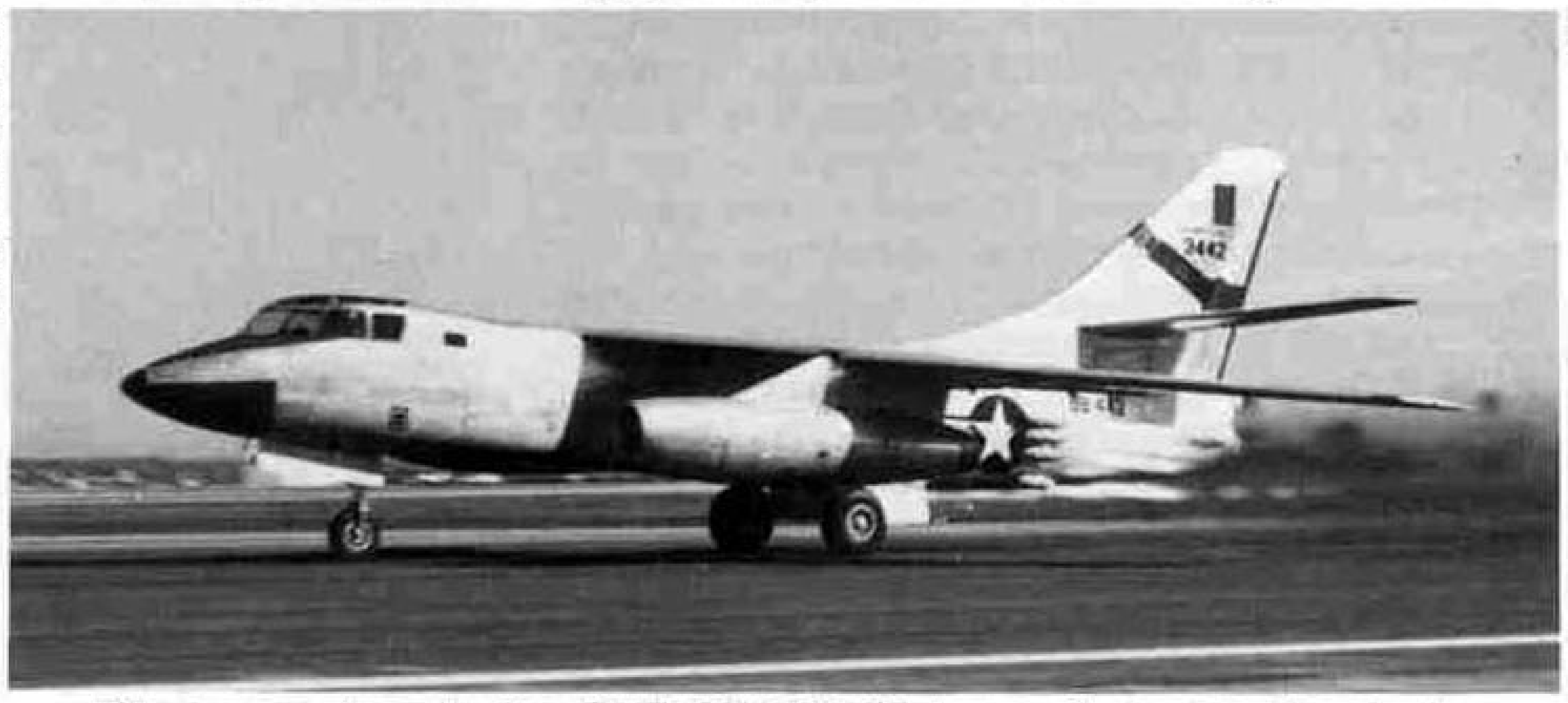
AFFTC/USAF via Richard Hallion

During trials at Edward AFB, RB-66B, 53-441, with a red vertical fin, was equipped with a special static pitot-type nose boom and red photo resolution stripes applied temporarily to the main landing gear doors, the airbrake, and the engine nacelles.



Nick Williams collection

JRB-66B, 53-441, following a tail modification that eliminated the aft-firing gun turret and replaced it with a faired EW-type empennage. Various stripes and lifting surface panels, including the vertical fin and rudder, were painted red.



MDC

Prior to acceptance by the AF, RB-66B, 53-442, is seen during takeoff under the influence of eight RATO bottles (rated at 1,000 lbs. th. ea.). These provided additional thrust for fifteen seconds and were jettisoned following fuel depletion.

used on the Boeing B-47. However, as at sea level the B-66 was 175 knots (325 kmh) faster than the B-47, this deflector-diffuser did not eliminate buffeting and had to be replaced with a perforated deflector.

B-66Bs were delivered with a tail turret housing two M-24A-1 20 mm cannon, with 500 rounds per gun and the system's related General Electric MD-1 or MD-1A fire control unit. Like other B/RB-66 variants, B-66Bs could be retrofitted with an ECM tailcone.

Beginning in May 1959, 13 B-66Bs were modified as *Brown Cradle* active ECM aircraft for USAFE. In addition to the common ECM tailcone, the aircraft were equipped with a bomb bay jammer pallet—or cradle—which could accommodate up to 18 jammers. Antennas for the bomb bay jammers were mounted on the underside of the pallet, which replaced the bomb bay doors.

The initial *Brown Cradle* ECM suite probably included the following equipment: AN/ALE-1 chaff dispenser, AN/APS-54 radar warning set, and a variable complement of AN/ALT-6, -6B, -7, -8, and -8B jammers in the bomb bay, aft fuselage, and tailcone. the ECM systems operator, later known as the EWO, had little in-flight control of the jammers; his panels contained only Off-Standby-On switches for each set. All jammer mode and parameter control panels were mounted on the ECM pallet, and in the aft fuselage or tailcone. These controls were inaccessible in flight and had to be preset, before takeoff, to counter anticipated threats.

Brown Cradle B-66B ECM systems were continually updated and improved. By the time the first *Brown Cradle* aircraft deployed to Southeast Asia during September 1965, they had already undergone several major system upgrades and modifications. New equipment included a QRC-65 communications jammer; AN/ALT-13, -15, -16, and -22 jammers; and an AN/ALR-18 set-on receiver which controlled one AN/ALT-6B jammer.

Well after deployment to Southeast Asia, the *Brown Cradle* fleet—by then redesignated EB-66Bs—received a series of equipment upgrades which incorporated improved jamming equipment, enhanced jamming effectiveness by installing the mode/parameter controls for most jamming systems in the cockpit, and provided analysis (AN/ALR-27) and improved warning (AN/APR-25/-26) capabilities.

RB-66B and EB-66E (Douglas Model 1329): Production of this night photographic reconnaissance version of the *Destroyer* first was authorized during April 1952, when 127 RB-66As were ordered. Later this contract was changed to include B-66B bombers and RB-66Bs, the latter differing from the RB-66As primarily in being fitted with an inflight refueling probe and incorporating other changes initially specified for the bomber version. The first RB-66B flew during December 1954; the last was accepted on October 10, 1957.

Three K-46 cameras (with 7 inch/17.8 cm. lenses) and one K-37 camera (with a 12 inch/30.5 cm. lens) were installed in the forward and central portion of the bomb bay, with the aft bay section being used to carry 48 M-120 photo flash bombs or 40 M-123 photo flash cartridges.

The first 20 RB-66Bs were powered by 9,570 lb. (4,341 kg.) th. J71-A-9s, the next 108 had 9,700 lb. (4,400 kg.) th. J71-A-11s, and the final 17 RB-66Bs received 10,200 lb. (4,627 kg.) th. J71-A-13s. Early production aircraft were retrofitted first with -11 engines and then with -13s, while -13s also were retrofitted to aircraft which had been delivered with the intermediate J71-A-11s.

Like the B-66B, the RB-66B was delivered with a tail gun installation, but it could be and often was fitted with an ECM tailcone. This tailcone and additional ECM capabilities distinguished the 52 EB-66Es which were created during the Southeast Asia War when the Sacramento Air Materiel Area replaced the cameras and flash bombs/cartridges of RB-66Bs with active and passive ECM systems. At that time, the navigator's position was relocated to the seat directly behind the pilot, and an EWO position was installed on the right-hand side.

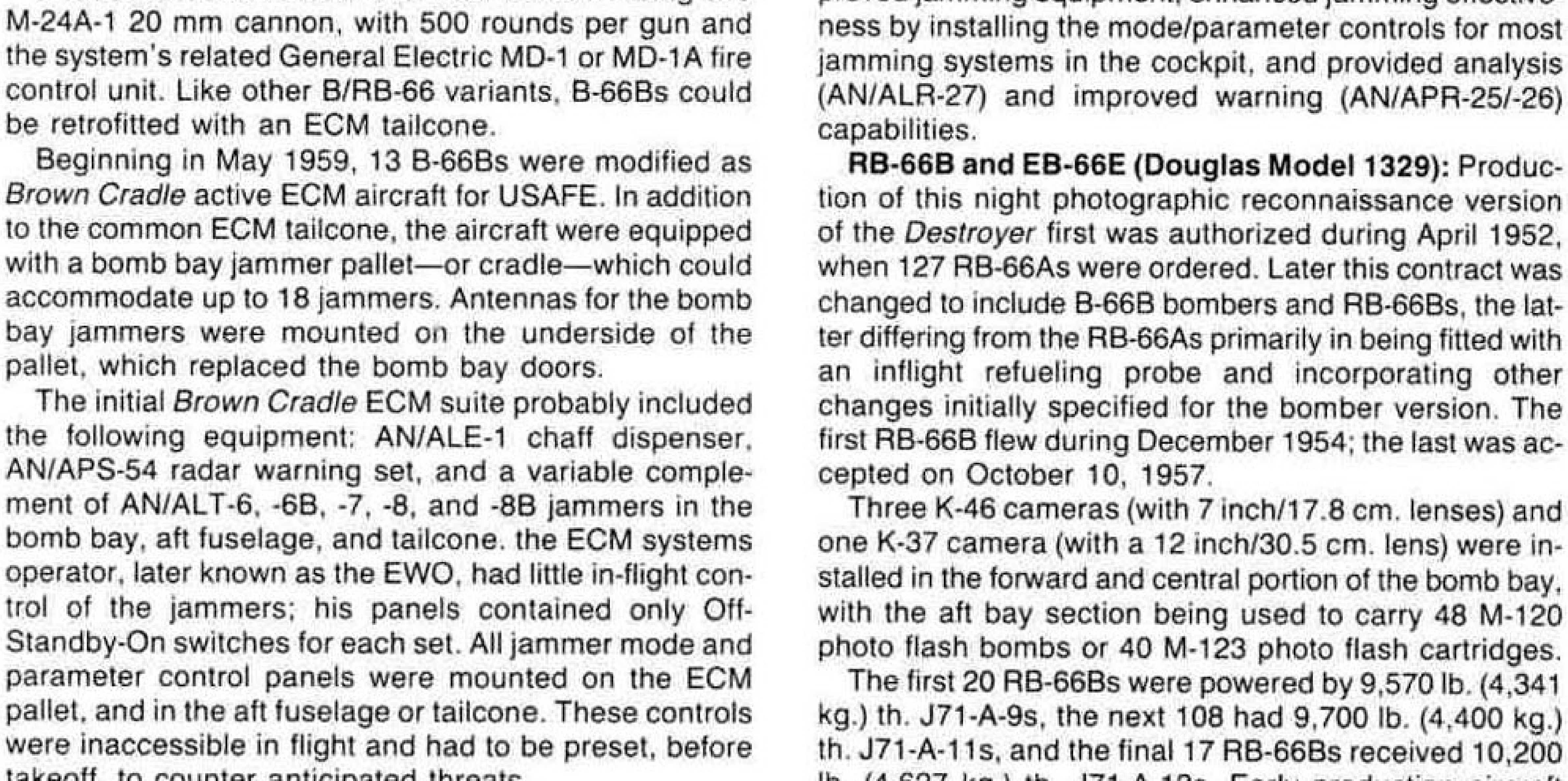
RB-66C and EB-66C (Douglas Model 1328): The basic requirement for an electronic reconnaissance version of the B-66 was first established during March 1952, with TAC detailing its operational requirements during April 1953. Thereafter, the RB-66C program gained momentum with a first batch of 30 aircraft being included in a contract change dated October 6, 1953. The mock-up for the RB-66C was inspected during January 1954; the first prototype flew on October 29, 1955, and the last RB-66C was delivered on June 14, 1957.

The RB-66C differed from the RB-66B mainly in the bomb bay area, as all the photo-reconnaissance equipment was removed and the bay was rebuilt to accommodate four ECM operators and the necessary electronic equipment in a pressurized compartment. The RB-66C's electronic reconnaissance equipment consisted of rapid scan receivers, panoramic receivers, pulse analyzers, direction finders, and a wire recorder. Externally this version differed from all other *Destroyer* variants in being fitted with AN/APD-4 antenna pods beneath the wing tips.

The 36 RB-66Cs were delivered with 9,700 lb. (4,400 kg.) th. J71-A-11s but later were retrofitted with 10,200 lb. (4,627 kg.) th. J71-A-13s. Like previous *Destroyers*, they were built with the tail turret installation but later were fitted with various configurations of the dedicated ECM tailcone.

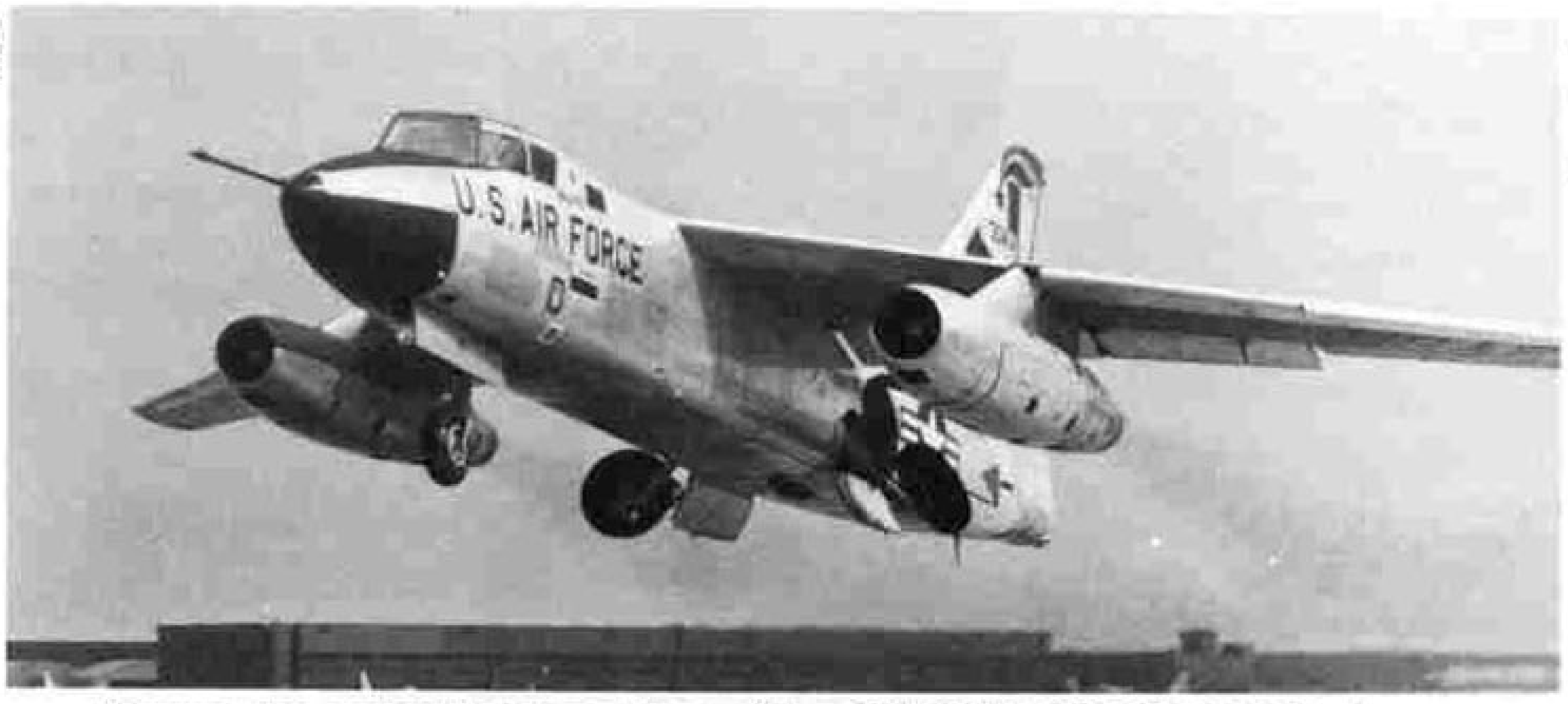
WB-66D (Douglas Model 1365): In answer to a General Operational Requirement issued during October 1954, Douglas undertook a configuration study for the WB-66D synoptic weather reconnaissance version. During August 1955, the AF issued a procurement directive substituting 36 WB-66s for the last 36 RB-66Cs ordered 11 months earlier. However, the WB-66D program temporarily was delayed as some of the specialized equipment which the AF had hoped to procure for the weather reconnaissance airplane was not available on time. A mock-up incorporating a less sophisticated equipment fit than originally planned was approved during June 1956. The first WB-66D flew on May 29, 1957, and during January 1958, the 36th WB-66D became the last *Destroyer* accepted by the AF. All WB-66Ds were powered with J71-A-13s and could be fitted with an ECM tail cone in place of the turret.

This version was similar to the RB-66C, except that the fuselage compartment accommodated two weather observer positions instead of four ECM operator positions. The weather reconnaissance equipment included an AN/AME-1 radiosonde dispensing set, an AN/AMR-3



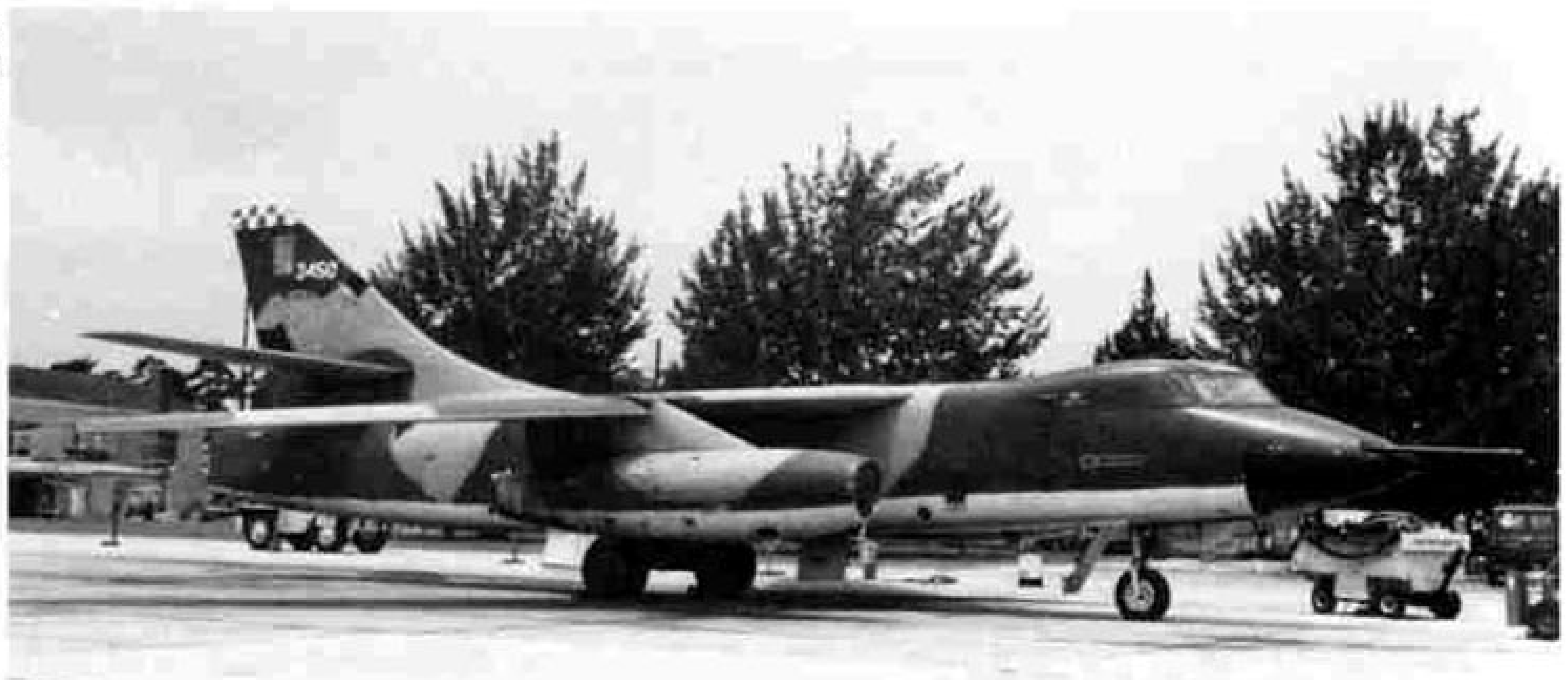
Phil Chinnery via Nick Williams

RB-66B, sporting a most unusual tail number assemblage. As seen, it states, "1510-RB-66B-53-444". At the time, 1961, the aircraft was a static training article at Sheppard AFB used primarily for maintenance education of neophyte support personnel. Not surprisingly, the tail turret is devoid of guns.



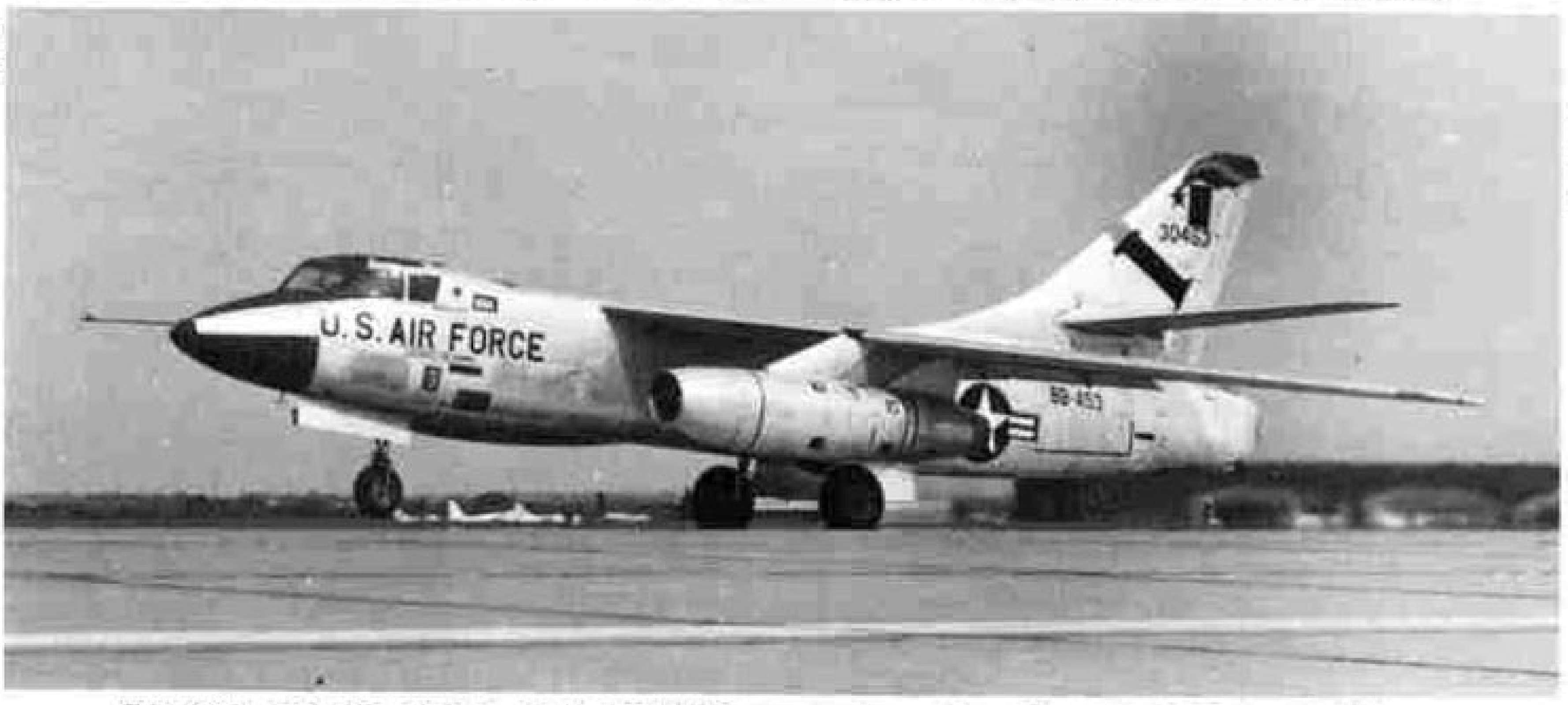
MDC

Bearing the vertical fin tip markings of the 10th TRW, RB-66B, 53-449, departs Douglas' Tulsa facility during August 1962 following completion of a systems modification/update program. Main gear retraction geometry is readily visible.



Norm Taylor

RB-66B, 53-450, of the 4411th CCTS/363rd TRW, during a transient stop at Shaw AFB on June 12, 1968. This aircraft earlier had been assigned to the 10th TRW. The unit's distinctive red and white vertical fin tip checkerboard is clearly visible.



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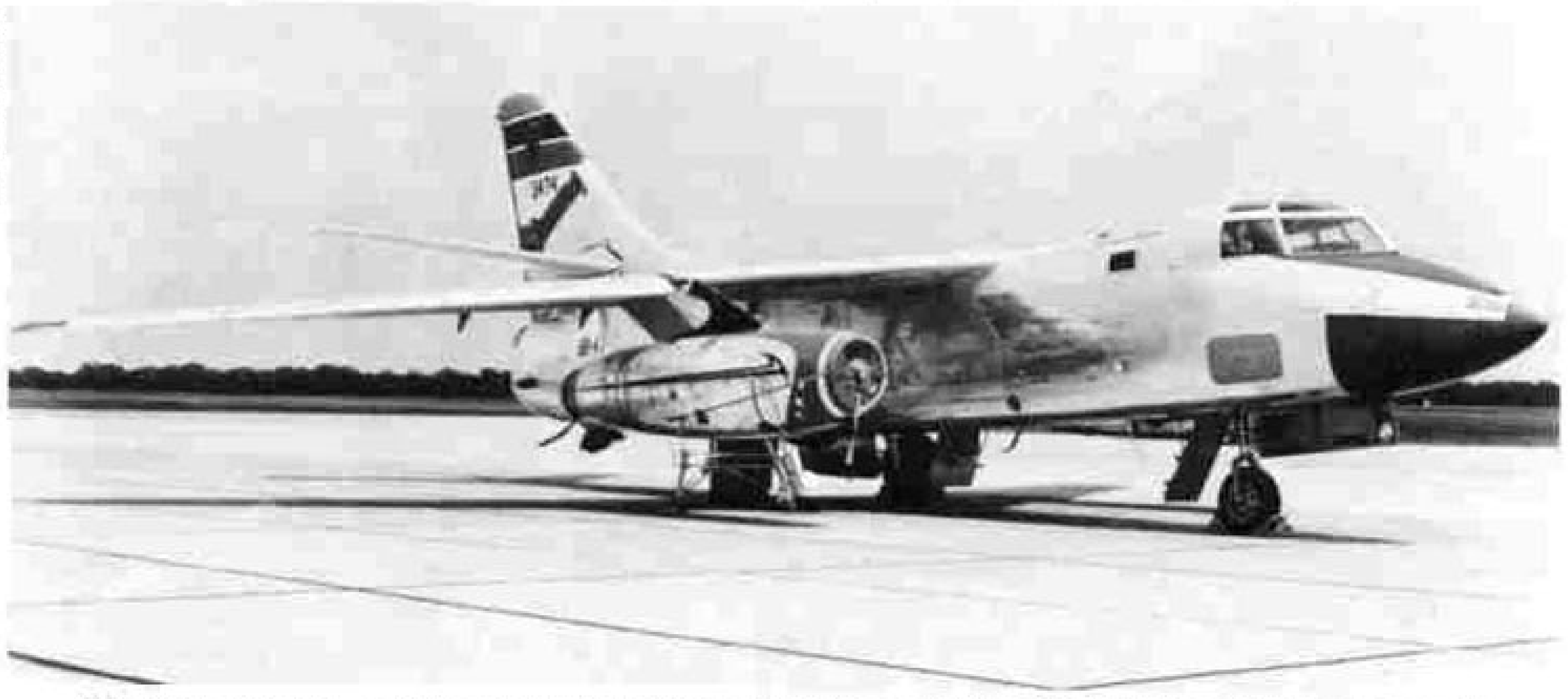
RB-66B, 53-453 of the 10th TRW, is seen departing Douglas' Tulsa facility on August 13, 1962, following modification and update. Relatively shallow flap setting and conservative markings detail are noteworthy.



USAF Museum

RB-66B, 53-474, of the 432nd TRG/43rd TRS, at Shaw AFB during 1959. Unusual markings of this aircraft are assumed to have been in red, white, and blue. Visible to the rear of the nose gear is the crew entrance hatch/ladder.

radiosonde receiver, a P-220 weather camera, and an AN/AMQ-7 aerograph system.

To increase the survivability of the B/RB-66 in combat, TAC determined early on that devices would be required (1) to warn when the airplane was being tracked by radar and (2) to neutralize radar defenses in the frequency bands operated by potential enemies. Although endorsed by AF Headquarters, this ECM requirement was deferred several times as automatic jammers still were in early development stages and space problems in the high density B-66 meant that already developed systems (such as the tail turret) would have to be deleted to make room for the ECM gear. Finally, during July 1957, after considering numerous configurations, the AF decided that none of the B/RB-66Bs would be fitted with ECM gear during production. It did, however, order 113 ECM tailcones for retrofitting to selected B/RB/WB-66s and 13 *Brown Cradle* ECM pallets. After some additional delays these tailcones and bomb bay cradles were delivered between March 1958 and May 1959, and were installed in selected aircraft during IRAN.

The tailcone, which was interchangeable with the tail turret, housed an AN/ALE-1 dispensing set with 760 lb. (345 kg.) of chaff and six AN/ALT-6B, -7 and -8B active ECM jammers in various combinations. Moreover, the modified aircraft could carry an AN/ALE-2 chaff dispensing pod beneath each wing.

SERVICE HISTORY:

At the peak of the *Destroyer* program during mid-1954, the AF planned to acquire 363 R/RB-66s (five RB-66As, 138 B-66Bs, 148 RB-66Bs, and 72 RB-66Cs) to equip six bomber squadrons and ten reconnaissance squadrons (seven with RB-66Bs and three with RB-66Cs). However, because of technical difficulties and associated cost overruns, the program was reduced to 294 aircraft and acceptances were stretched over a longer period than originally scheduled. In fact, although the plan had called for the delivery of the 363rd aircraft during May 1957, the 294th aircraft was the last to be accepted, and this only during January 1958, fifteen months behind schedule. Consequently, fewer squadrons were equipped with *Destroyers*, and the type—in particular its bomber variant—had a shorter than expected service life.

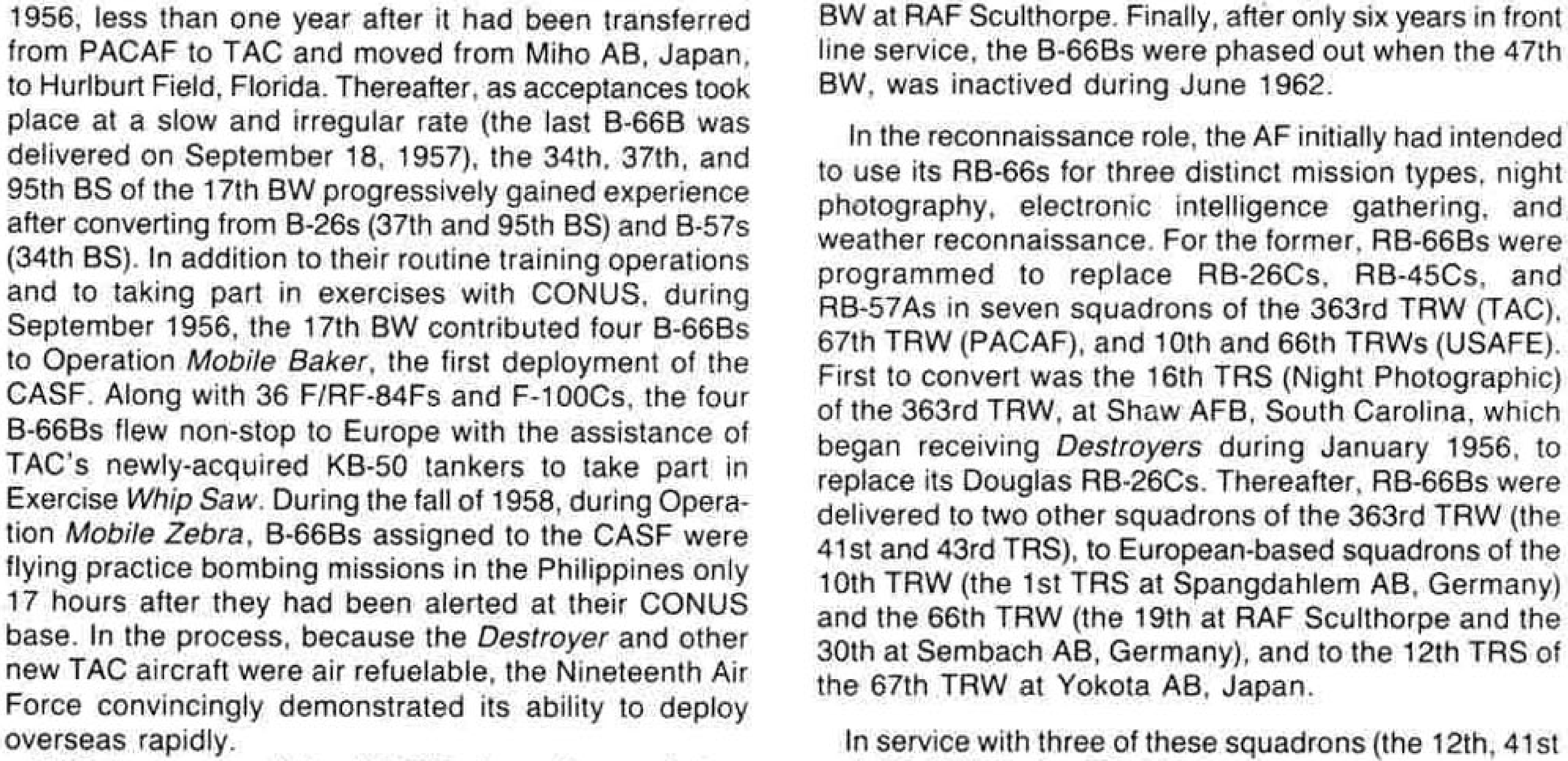
During mid-1954, the AF had six Bombardment Wings, Light (the 345th and 461st served with TAC in the continental United States, the 3rd and 17th were with PACAF, and the 38th and 47th with USAFE), but only two of these—the 47th and 345th—then were planned to be re-equipped with B-66Bs. Even this limited plan had to be revised during May 1955, as cost overruns, unsatisfactory performance of the K-5 Bombing-Navigation System, and program delays forced the AF to reduce procurement of B-66Bs by almost 50%. Furthermore, overall budget reductions and changing requirements led to an overall shrinkage in the tactical bombing force.

The 17th BW[5] received its first B-66B on March 16, 1956, less than one year after it had been transferred from PACAF to TAC and moved from Miho AB, Japan, to Hurlburt Field, Florida. Thereafter, as acceptances took place at a slow and irregular rate (the last B-66B was delivered on September 18, 1957), the 34th, 37th, and 95th BS of the 17th BW progressively gained experience after converting from B-26s (37th and 95th BS) and B-57s (34th BS). In addition to their routine training operations and to taking part in exercises with CONUS, during September 1956, the 17th BW contributed four B-66Bs to Operation *Mobile Baker*, the first deployment of the CASF. Along with 36 F/RF-84Fs and F-100Cs, the four B-66Bs flew non-stop to Europe with the assistance of TAC's newly-acquired KB-50 tankers to take part in Exercise *Whip Saw*. During the fall of 1958, during Operation *Mobile Zebra*, B-66Bs assigned to the CASF were flying practice bombing missions in the Philippines only 17 hours after they had been alerted at their CONUS base. In the process, because the *Destroyer* and other new TAC aircraft were air refuelable, the Nineteenth Air Force convincingly demonstrated its ability to deploy overseas rapidly.

TAC, however, only had B-66Bs for a short period as rapid progress in aircraft performance and the reduction in size and weight of special weapons led to the replacement of subsonic *Destroyers* in the tactical nuclear role with bisonic Republic F-105 *Thunderchiefs*. During June 1958, the 17th BW began transferring its aircraft to the 47th BW, USAFE, to replace the North American B-45s of the 84th, 85th, and 86th BS. At first, the 86th BS operated its *Destroyers* from RAF Alconbury, but during August 1959, it joined the other two squadrons of the 47th BW at RAF Sculthorpe. Finally, after only six years in front line service, the B-66Bs were phased out when the 47th BW, was inactived during June 1962.

In the reconnaissance role, the AF initially had intended to use its RB-66s for three distinct mission types, night photography, electronic intelligence gathering, and weather reconnaissance. For the former, RB-66Bs were programmed to replace RB-26Cs, RB-45Cs, and RB-57As in seven squadrons of the 363rd TRW (TAC), 67th TRW (PACAF), and 10th and 66th TRWs (USAFE). First to convert was the 16th TRS (Night Photographic) of the 363rd TRW, at Shaw AFB, South Carolina, which began receiving *Destroyers* during January 1956, to replace its Douglas RB-26Cs. Thereafter, RB-66Bs were delivered to two other squadrons of the 363rd TRW (the 41st and 43rd TRS), to European-based squadrons of the 10th TRW (the 1st TRS at Spangdahlem AB, Germany) and the 66th TRW (the 19th at RAF Sculthorpe and the 30th at Sembach AB, Germany), and to the 12th TRS of the 67th TRW at Yokota AB, Japan.

In service with three of these squadrons (the 12th, 41st and 43rd TRS), the RB-66B had a short life as the two TAC units were inactivated during May 1959, followed by the PACAF squadron during March 1960. With three other squadrons, one from TAC and two from USAFE, RB-66Bs had a somewhat longer career in the tactical night reconnaissance role as their replacement by McDonnell RF-4Cs did not materialize until 1965-66. Finally, the ECM-configured RB-66Bs of the 19th TRS



Al Piccirillo via Norm Taylor

EB-66E, 53-486, of the 42nd TEWS/355th TFW at Ubon RTAFB, Thailand, during December 1968. The aircraft bears standard Vietnam-era camouflage, though the mix match of engine nacelle panels is noteworthy. Small nose antenna immediately to the rear of the nose radome aft edge, also is noteworthy.

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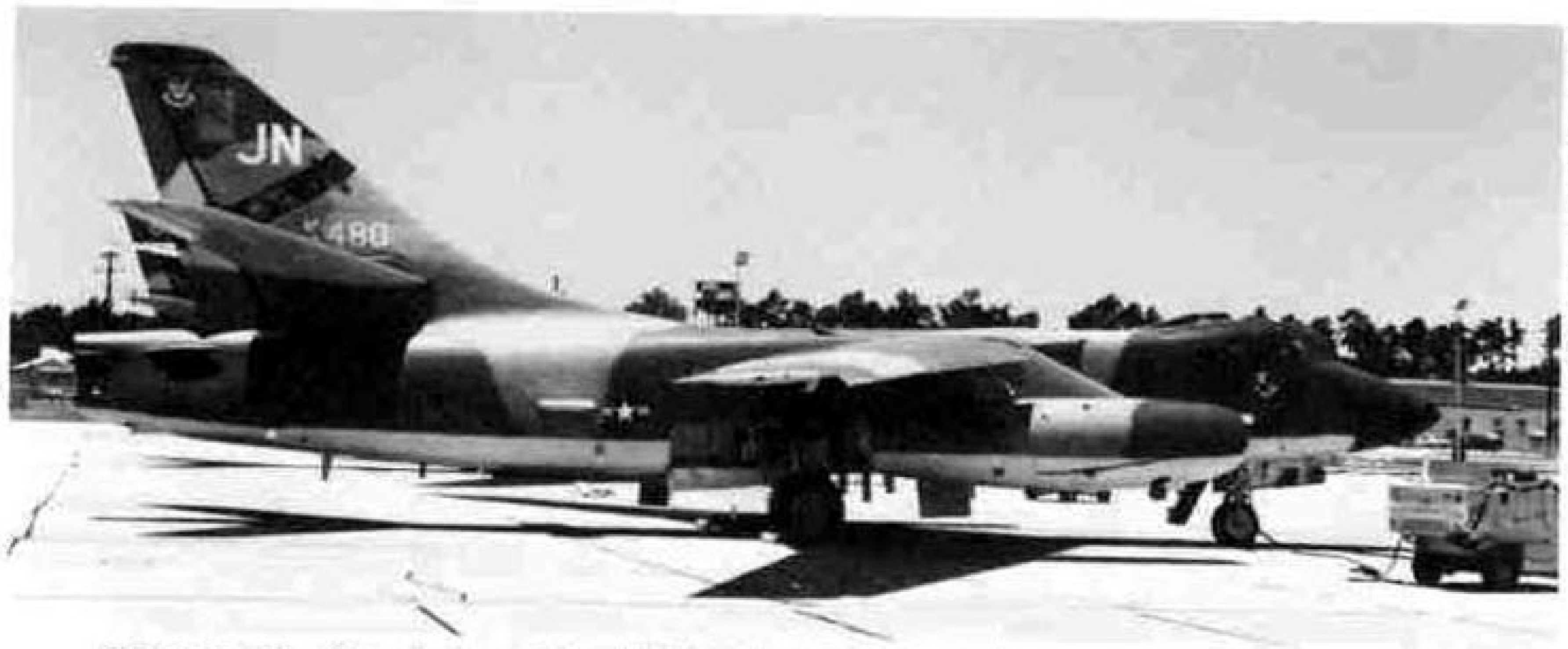
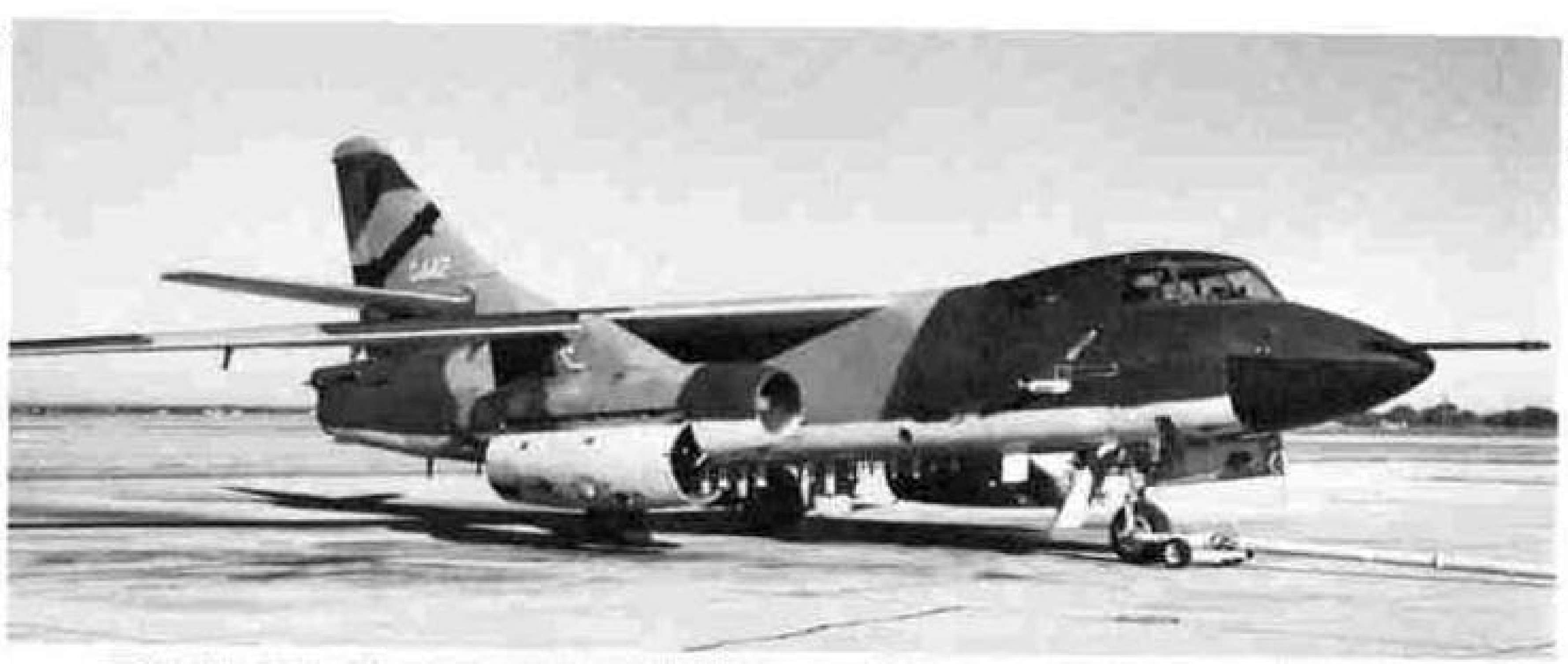
[5] Like the other Bombardment Wings, Light, the 17th BW had been redesignated Bombardment Wing, Tactical during October 1955.



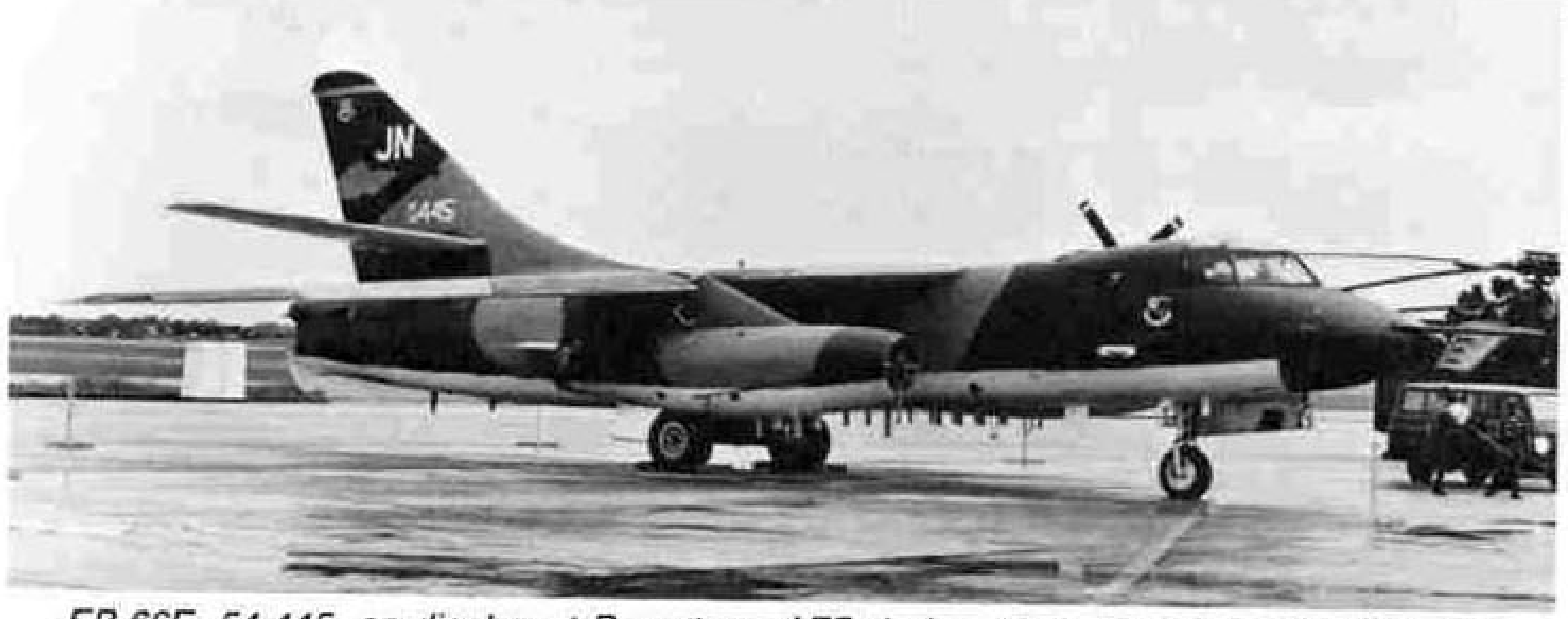
EB-66E, 53-480, of the 39th TEWS/363rd TRW at Shaw AFB during June 1972. Standard Vietnam-era camouflage including white (gray) undersurface detail is apparent, as is relatively small size of national insigne on fuselage side.

Norm Taylor via Jerry Geer



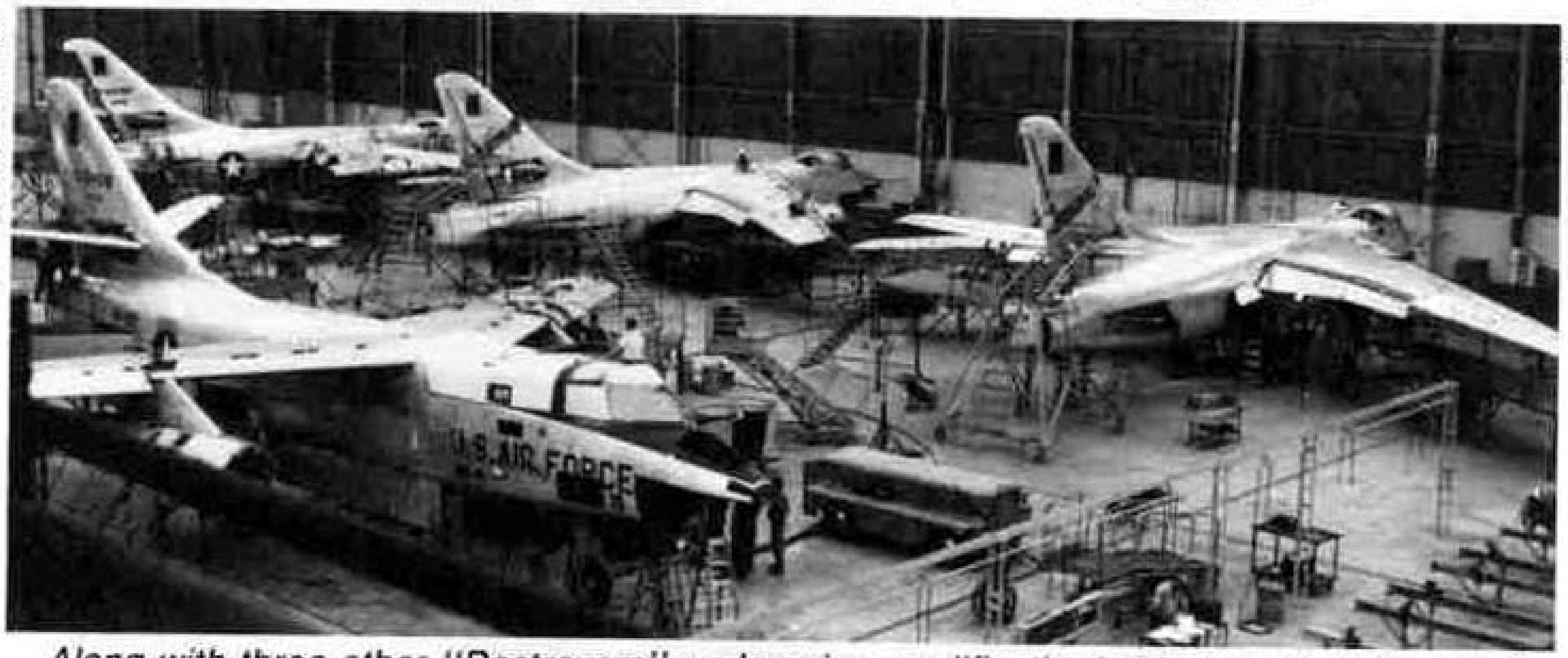
EB-66E, 54-442, of the 39th TEWS/363rd TRW on November 4, 1972 during a transient stopover at Kelly AFB. Extensive antenna farm visible underneath fuselage, and open engine nacelle doors, are readily apparent.

Norm Taylor



EB-66E, 54-445, on display at Bergstrom AFB during 1970. Typical of EB-66Es, this aircraft carries a rather extensive antenna farm on its fuselage underside. Other blade antennas are visible on the fuselage sides and empennage.

Jay Miller/Aerofax, Inc.



Along with three other "Destroyers" undergoing modification/update work at Douglas' Tulsa facility, the sole NB-66B, 53-488, is visible in the left foreground with its distinctive white upper, forward fuselage paint and associated red trim.

MDC

soldiered on in Europe until September 1966[6] when the squadron was transferred to the 363rd TRW at Shaw AFB, South Carolina, and redesignated 19th TEWS. During February 1968, the 19th TEWS sent a detachment to Osan AB as part of *Combat Fox*, the reinforcement of U.S. forces in Korea following the *Pueblo* incident; ten months later the squadron was transferred permanently to the 18th TFW at Kadena AB, Okinawa, for service with PACAF until its inactivation during October 1970.

Until the development of the RB-66C and WB-66D, no tactical aircraft had been specially manufactured to undertake either the electronic or weather reconnaissance missions. Both these versions were assigned to one squadron in TAC, PACAF and USAFE—respectively the 9th, 11th and 42nd TRS (Electronic and Weather), with the RB-66C entering service during 1956 and the WB-66D following within the year. Until the inactivation of the 42nd TRS during August 1966, RB-66Cs flew ELINT and COMINT sorties along and occasionally across, the borders of Communist countries in Western Europe. In Southeast Asia, the 11th TRS flew similar intelligence missions for less than three years.

Similarly, USAFE and PACAF WB-66Ds collected weather information around and over Communist territories for the data bank used to plan combat missions.

Operations near the Soviet Union, or Soviet-controlled territory, were not without risk, and border violations—accidental or purposeful—were dealt with harshly. On the afternoon of Tuesday, March 10, 1964, a 19th TRS RB-66B departed Toul-Rosieres AB, in northern France, on what was later described as a routine "navigational training flight" over the Federal Republic of Germany. Shortly after 3:00 p.m., the aircraft crossed into German Democratic Republic airspace—over 100 miles from where it should have been—and was promptly shot down by Soviet fighters near the town of Stendahl, about 20 miles east of the border. The crew of three (pilot, navigator, and instructor-navigator) ejected and parachuted into the vicinity of Soviet troop maneuvers. All three survived, although the navigator was badly injured upon landing. The U.S. airmen were held for a few weeks, then released.

SOUTHEAST ASIA COMBAT OPERATIONS:

During *Flaming Dart* strikes and early *Rolling Thunder* operations, U.S. aircraft flying over North Vietnam only had to contend with AAA and the threat posed by some 40 MiG-15s and MiG-17s of the Vietnam People's Air Force. Reconnaissance activities, however, soon uncovered evidence of a massive Communist undertaking to beef up North Vietnamese radar coverage[7] and install batteries of SA-2 *Guideline* SAMs. In response to this new threat, TAC sent six RB-66Cs of the 363rd TRW on TDY to Takhli RTAFB in Thailand where they were attached to the 9th Reconnaissance Task Force to conduct electronic support missions and provide ECM for the strike aircraft operating over the North.

Initially employed in a semi-escort role, pairs of RB-66Cs penetrated North Vietnam at an altitude of 28,000 to 32,000 ft. (8,500 to 9.750 m.) and orbited in close proximity to the target to provide the strike force with threat warnings and gun-laying radar jamming. In the process, they not only effectively protected the F-4Cs and F-105Ds but on July 23, 1965, also brought back the first details of *Fan Song* track-while-scan radar emissions.[8] With concrete evidence that SAMs now were posing a serious threat, TAC sent three more RB-66Cs on TDY to Takhli RTAFB during September 1965, and one month later transferred these and previously detached RB-66Cs to PACAF for assignment to the newly constituted 41st TRS. During the same month, USAFE also contributed a TDY detachment of five *Brown Cradle* B-66Bs.

Soon after this, ECM-configured RB-66Cs no longer were allowed to fly in a semi-escort role. Instead, they were tasked to operate in a standoff position whereby they preceded the strike force to preplanned orbit points and remained on station until all strike aircraft were outbound. While on orbit, the RB-66C aircrews searched for electronic emissions; issued threat warnings to the strike force by coded radio messages—giving threat type, location, and status; set jammers on the frequencies used by control radars in the ingress/target/egress area; and dispensed chaff to confuse and degrade the enemy's radar systems. On the other hand, as *Brown Cradle* aircraft were equipped with 23 jammers believed effective against all known North Vietnamese radar, the B-66Bs continued to operate to within 15 nautical miles of target areas. Because jamming effectiveness varied inversely with the distance between jammer and radar, the withdrawal of the RB-66Cs from the target area reduced their effectiveness and left PACAF with too few *Brown Cradle* B-66Bs to do the job.

During February 1966, PACAF RB-66Cs were redeployed to Tan Son Nhut AB, outside of Saigon. During June they were joined by the TDY B-66Bs (including eight additional aircraft sent by USAFE during May). In South Vietnam, the 41st TRS was assigned to the 460th TRW while the USAFE aircraft were transferred to PACAF and distributed among two other squadrons of the 460th TRW, the 6460th TRS and the short-lived 6461st TRS. Remaining based in South Vietnam until September 1966, when they were transferred to the 432nd TRW at Udorn RTAFB, the EB-66Bs and EB-66Cs of the 41st, 6460th, and 6461st TEWS[9] kept on providing ECM support for operations against the North. SAMs claimed two RB-66Cs of the 41st TRS during the year: 54-457 and 54-464 were shot down on February 25 and July 20, respectively.

During the latter part of 1966 and the early months of 1967, the North Vietnamese added low frequency radar to their air defense network, thus obtaining uninterrupted early warning alert while being able to pass range, altitude, tracks, and airspeed information to terminal defenses. This resulted in the enemy's effective use of emission control of threat radar, which minimized their transmission time and degraded the efforts of *Wild Weasel* aircraft. Subsequently, the *Wild Weasels* were tasked to accompany the strike force to provide threat warning and SAM suppression. At the same time as increased use of QRC-160 ECM jamming pods to counter terminal threats reduced the strike aircraft's dependency on EB-66 protection, the task of the EB-66s was changed to countering the enemy's EW/GCI radar.

Although EB-66s were no longer used in the escort role by the spring of 1967, requirements for ECM missions outweighed available assets; EB-66s were needed to support operations by Thai-based aircraft of the Thirteenth Air Force and those by Navy aircraft operating from CTF-77 carriers and by SAC B-52s.[10] Accordingly, although the EB-66Bs had been scheduled to be replaced by EB-66Es, the first of which arrived at Takhli RTAFB during August 1967, PACAF was authorized to retain the older aircraft until a sufficient number of EB-66Es and upgraded EB-66Cs were available. Moreover, PACAF was instructed to limit its support of Navy strikes. (Fortunately for the Navy, the carriers soon were able to deploy their own EKA-3Bs, the Navy ECM support version of the B-66.)

During the summer and early fall of 1967, the EB-66s generally orbited in western North Vietnam, north of the 20th parallel until July, and south thereafter; and over the Gulf of Tonkin, near Haiphong. These missions were planned outside of the SAM rings and were flown with an F-4 escort. During October 1967, approved orbits were moved north of the Tam Dao Ridge ("Thud Ridge") after the North Vietnamese had moved their SAM batteries closer to Hanoi and the EB-66s had been fitted with improved, less easily jammed radios on which to receive timely MiG warnings. However, after MiGs began paying too much attention to the EB-66s, the valuable ECM aircraft were once again pulled away from the high threat area, even though this reduced drastically their jamming effectiveness.

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[6] In spite of the insufficient number of EB-66Cs and EB-66Es available to the AF during the Southeast Asia War, a few of these valuable aircraft later were assigned to USAFE and were operated by the specially constituted 39th TEWS from April 1969, until December 1972.

[7] During August 1964, the North Vietnamese air defense radar order of battle was estimated to total 26 (22 EW radars of various types and 4 AAA fire control radars). By April 1965, this total had grown to 42 radars, and the first SA-2 sites had been photographed. During December 1965, the North Vietnamese were estimated to have 104 operational air defense radars, including EW, EW/GCI, height finder, AAA fire control, and *Fan Song* (SA-2) missile control radars.

[8] On the very next day, an F-4C from the 47th TFS became the first U.S. aircraft to be shot down by an SA-2 while flying TARCAP during a strike against the Lang Chi munitions factory. Three other F-4Cs also were damaged by *Guidelines* during the same mission.

[9] During the year, both aircraft and squadrons were redesignated as EB-66s and Tactical Electronic Warfare Squadrons, respectively, when electronic countermeasures replaced tactical reconnaissance as their mission.

[10] *Tiny Tim* support missions for the *Arc Light* B-52s became particularly important during Operation *Niagara* during early 1968 when the heavy bombers operated close to the DMZ, and within range of SAM batteries in southern North Vietnam, to help break the siege of Khe Sanh.

Yet another change of tactics was tried during December 1967, when the EB-66s were restricted to operations along pre-planned routes and in accordance with rather inflexible procedures. Risks were reduced, along with jamming effectiveness, as the North Vietnamese now were able to anticipate the EB-66s' moves. Furthermore, during January 1968, as MiGs became increasingly aggressive, the western orbit point had to be moved further out and southwest over the Gulf of Tonkin, thus bringing about still further reductions in effectiveness.

Nothwithstanding these precautionary changes in tactics, two EB-66Cs were lost during 1967. One (55-387) was shot down by a SAM on February 4, while the other (54-473) crashed on November 17 following an engine failure on take-off from Takhli RTAFB where both the 41st and 6460th TEWS had moved after their transfer to the 355th TFW during August 1967.

As offensive operations against North Vietnam were suspended from 1968 until the spring of 1972 (a bombing halt against targets north of the 19th parallel imposed on April 1, 1968 was extended seven months later to the whole of North Vietnam), EB-66 losses decreased markedly. After an EB-66C (55-388) was shot down by an *Atoll* air-to-air missile fired by a MIG-21, no other EB-66s were lost in combat until April 1972. During that period, however, six EB-66s were lost in combat-related accidents: two EB-66Bs (53-491 on July 19, 1968 and 53-498 on April 7, 1969), two EB-66Cs (55-384 on October 24, 1970 and 55-389 on March 10, 1971), one EB-66E (54-524 on March 5, 1968), and an unidentified EB-66 during 1971. During the intervening years, the Thai-based EB-66 squadrons were restructured three times: the 6460th TEWS was renumbered 42nd TEWS during January 1968, the 41st TEWS was inactivated on October 31, 1969, and the 42nd TEWS was transferred to the 388th TFW at Korat AFB during September 1970.

In spite of the resumption of offensive operations against the North on April 1, 1972, the only combat loss after that date actually took place over South Vietnam when on April 2, 1972 an RB-66C (54-466), call sign "Bat 21", was brought down by a SAM fired across the DMZ. The last EB-66E operational loss was the result of a landing accident at the end of a *Linebacker II* sortie on December 20. This accident brought losses during the Southeast Asia War to a total of 15, six in combat and nine in operational accidents. Following the signing of the Paris Peace Agreement during January 1973, the 43rd TEWS continued to fly some combat support missions over Laos until April 17, 1973. Thereafter, little activity took place until the end of the year when the Joint Chiefs of Staff approved the salvage of all remaining EB-66s. One aircraft was reclaimed in place at Korat RTAFB and the remaining 24 EB-66s were ferried to Clark AB between January 2 and 17, 1974 for reclamation.

To train crew, develop tactics, and evaluate new equipment in support of EB-66 operations in Southeast Asia, TAC had organized the 4416th TS and the 4417th CCTS during July 1966. Both were assigned to the 363rd TRW at Shaw AFB and subsequently were redesignated. The 4416th TS became the 4416th CCTS during July 1967, while the 4417th CCTS was changed to the 39th TRTS during February 1967, and finally became the 39th TEWTS during October 1969. In the end, the 39th TEWTS became the last *Destroyer* unit, but finally was inactivated on March 15, 1974.

B-66 TESTBEDS:

Over the years, a number of *Destroyers* were assigned as testbeds for a variety of research and development programs. Noteworthy among these experimental uses were those made of the first RB-66A (serial no. 52-2828) which was bailed to General Electric as the JRB-66A to flight test first the 11,200 lb. (5,080 kg.) th. CJ805-3 turbojets and then the 16,000 lb. (7,255 kg.) th. CJ805-23 aft-fan engines in support of the Convair 880 and 990 commercial transport programs. Similarly, an RB-66B (53-421) was used to test the Pratt & Whitney TF33 turbofan and the nacelle developed by Douglas for the DC-8-50 series to house the JT3D civil version of this engine. In this configuration, the aircraft was first flown on March 2, 1961. Fourteen months later, the 17,000 lb. (7,710 kg.) th. TF33-P-3 on the starboard side was replaced by a 21,000 lb. (9,525 kg.) th. TF33-P-7. Although 53-421 had earlier been redesignated NRB-66B—with the suffix N indicating the aircraft's permanent assignment to special tests—it was refurbished by Pratt & Whitney at the conclusion of the test program and returned to the AF as a standard RB-66B.

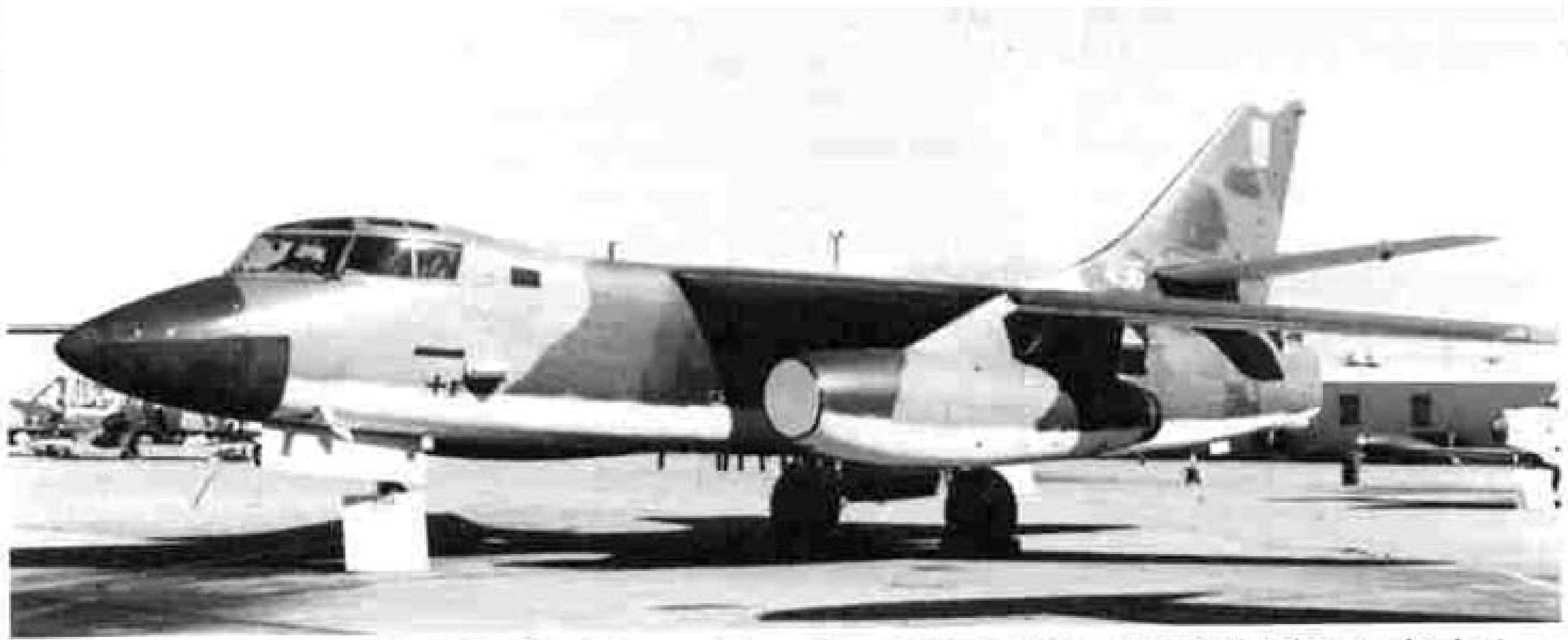
Other special use *Destroyers* included 53-412, a JRB-66B for testing the guidance system of the Boeing IM-99 *Bomarc*; 53-413, an NRB-66B used for testing the F-111 radar; 53-447, 53-450, and 53-453, three RB-66Bs used by the FAA on the ground at Lakehurst, New Jersey, for controlled crash tests; 53-488 and 54-481, two NB-66Bs operated at the National Parachute Test Range (later renamed Aerospace Recovery Facility) at NAF El Centro, California, for high-altitude parachute drops of heavy items such as the *Gemini* and *Apollo* space capsules; 54-477, fitted with a special tail-mounted anti-skid parachute and used by ASD at Wright-Patterson AFB for testing brakes; 55-391, a WB-66D for flight testing the F-15's Hughes AN/APG-63 radar; and 55-390, a JWB-66D for flight testing F-4 radar systems.

None of these programs, however, involved significant structural changes. The X-21 program, on the other hand, resulted in two greatly modified aircraft. To demonstrate the boundary layer control system developed by Dr. Werner Pfenninger as a means to reduce drag and thus increase aircraft range, Northrop Corporation received a $34-million contract during August 1960, to modify and flight test two WB-66Ds (55-408 and 55-410, the latter replacing 55-409 which was extensively damaged on landing when it was delivered to Northrop during October 1960). Designated X-21As, the two experimental aircraft were fitted with completely new wings of substantially increased span and area (93.5 ft./28.50 m. and 1,250 sq. ft./116.13 m^2 versus 72.5 ft./22.10 m. and 780 sq. ft./72.46 m^2 for unmodified WB-66Ds) and reduced sweep (30° versus 35.9°). These wings, of all aluminum construction, made extensive use of bonded honeycomb for both primary and secondary structure. The wings incorporated some 16,986 linear feet (431.44 m.) of suction slots that varied in width from .003 to .010 inches (.076 to .254 mm.), through which the turbulent boundary air was sucked by two AiResearch two-stage bleed burn turbines housed in underwing fairings and driven by bleed air from the aircraft's primary powerplants, two General Electric XJ79-GE-13s. Replacing the WB-66D's J71-A-13s, the two 9,490 lb. (4,305 kg.) th. XJ79-GE-13 turbojets were pylon-mounted on the sides of the rear fuselage. The X-21A crew consisted of a pilot and four flight test engineers (two in the cockpit and two in an aft test equipment monitoring compartment).

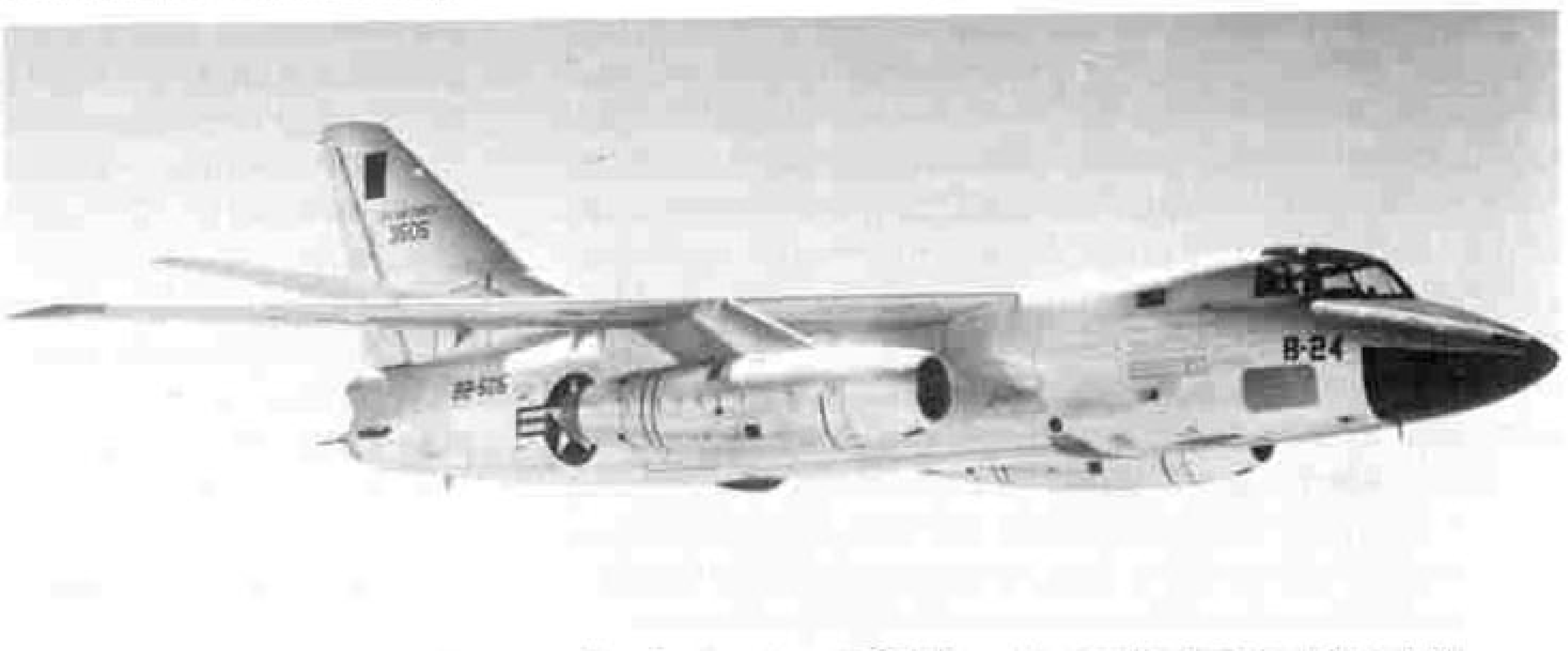
The X-21A flight test program got underway on April 18, 1963 when 55-408 was flown for the first time from Northrop's Hawthorne facility in California. Initial test results were encouraging, but later flights revealed that the need to keep the minute slots on the wing surface spotlessly clean was too costly and time consuming for practical application.

CONSTRUCTION AND SYSTEMS:

The B-66 series aircraft were all-metal, high-wing tactical aircraft capable of fulfilling a variety of missions. The B-66Bs were light bombers, the EB-66Bs and EB-66Es were active and passive ECM aircraft, and the RB-66As and RB-66Bs were night reconnaissance optimized. All

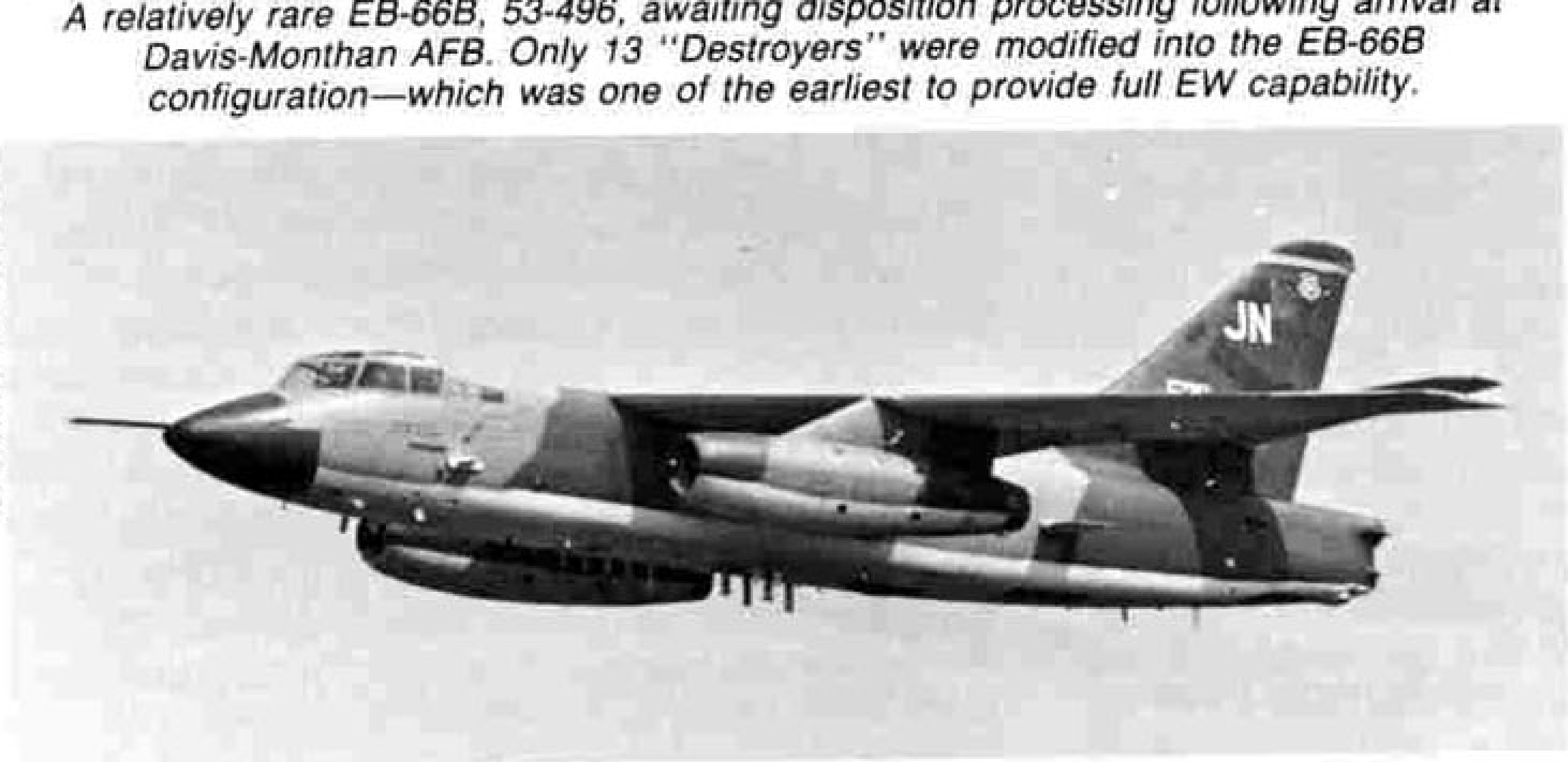

Mick Roth

A relatively rare EB-66B, 53-496, awaiting disposition processing following arrival at Davis-Monthan AFB. Only 13 "Destroyers" were modified into the EB-66B configuration—which was one of the earliest to provide full EW capability.



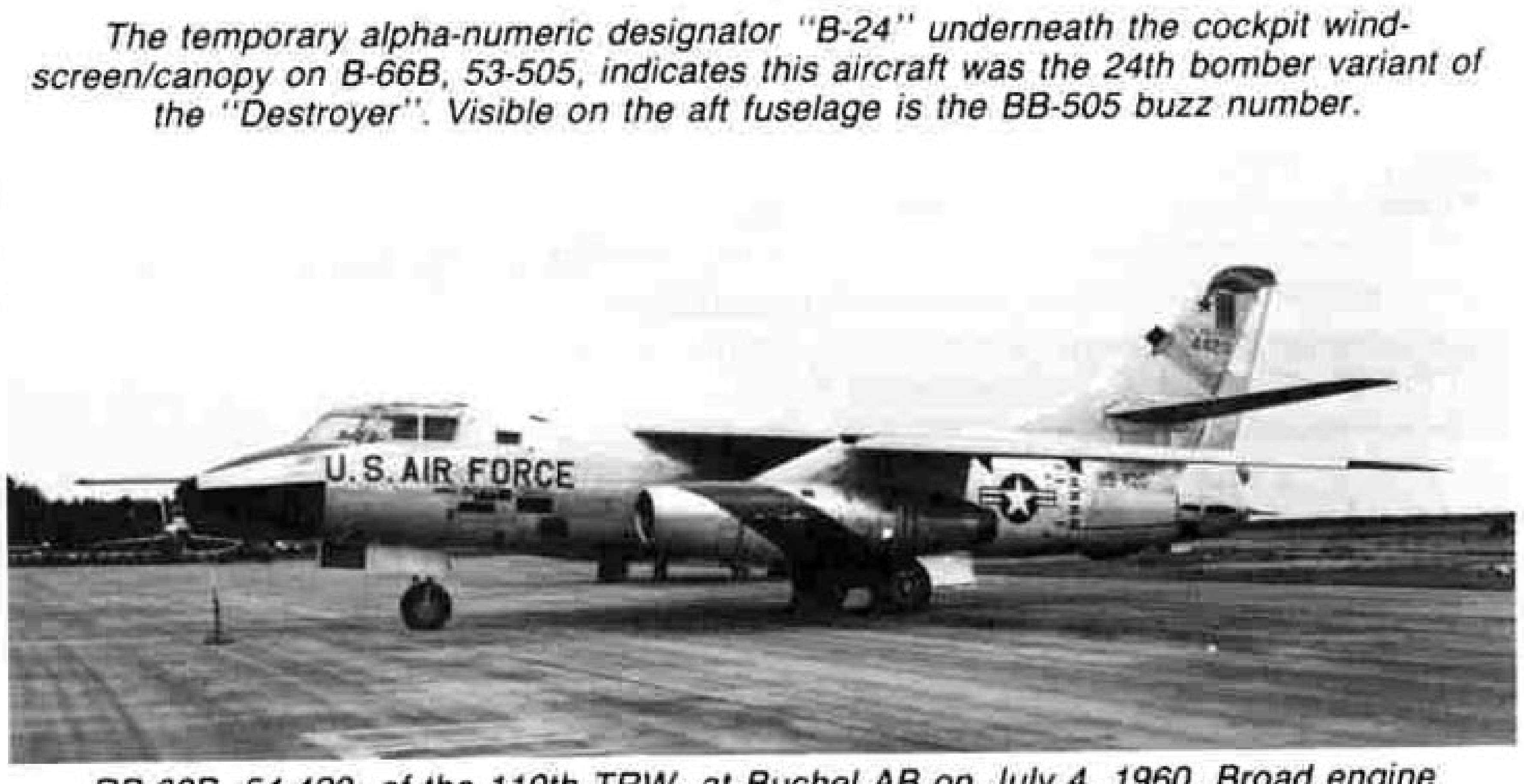
USAF

The temporary alpha-numeric designator "B-24" underneath the cockpit windscreen/canopy on B-66B, 53-505, indicates this aircraft was the 24th bomber variant of the "Destroyer". Visible on the aft fuselage is the BB-505 buzz number.



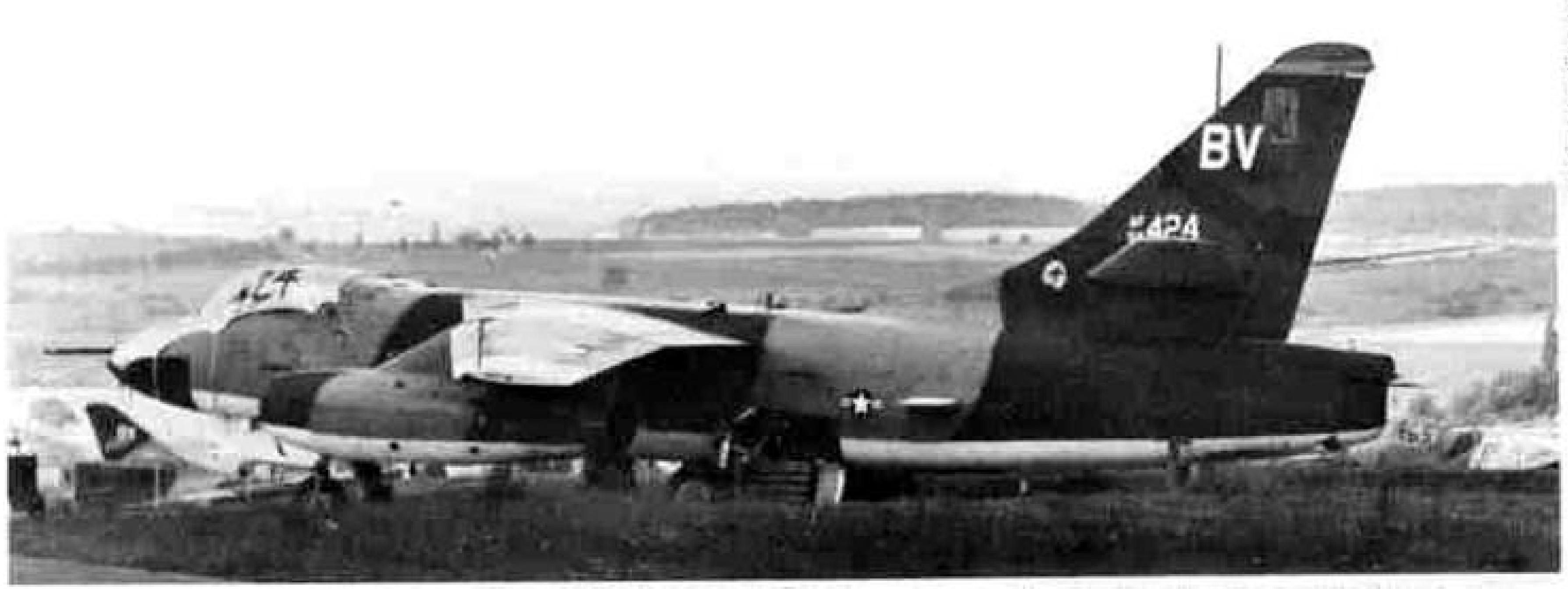
Jim Sullivan via Jerry Geer

EB-66E, 53-529, of the 39th TEWS departing Shaw AFB during June 1970. The aircraft's extensive antenna farm is easily seen from this angle. Distinctive all-black nose, including upper hemisphere area, is noteworthy and somewhat unusual.



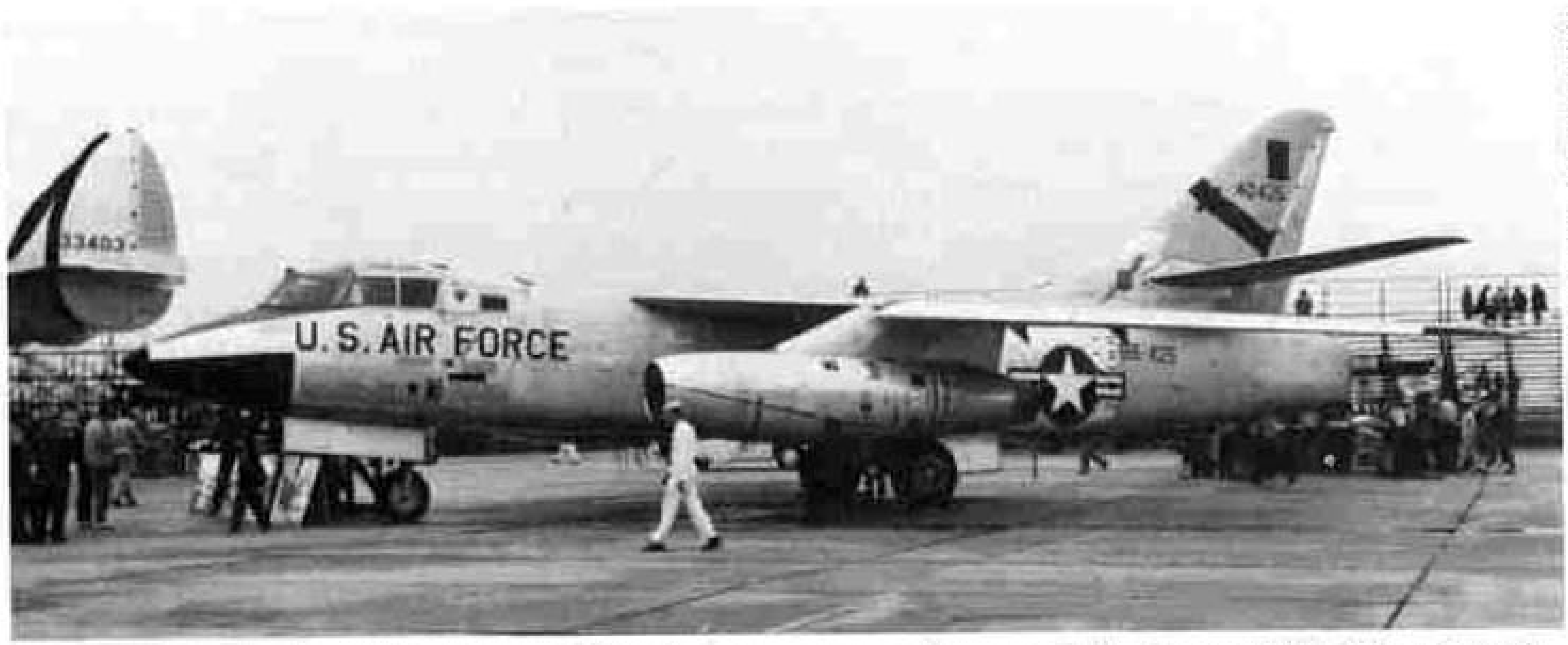
Dave Menard

RB-66B, 54-420, of the 110th TRW, at Buchel AB on July 4, 1960. Broad engine nacelle stripe was dark blue-green. Vertical fin tip markings were red, yellow, blue and green. This aircraft later was modified to the EB-66E configuration.



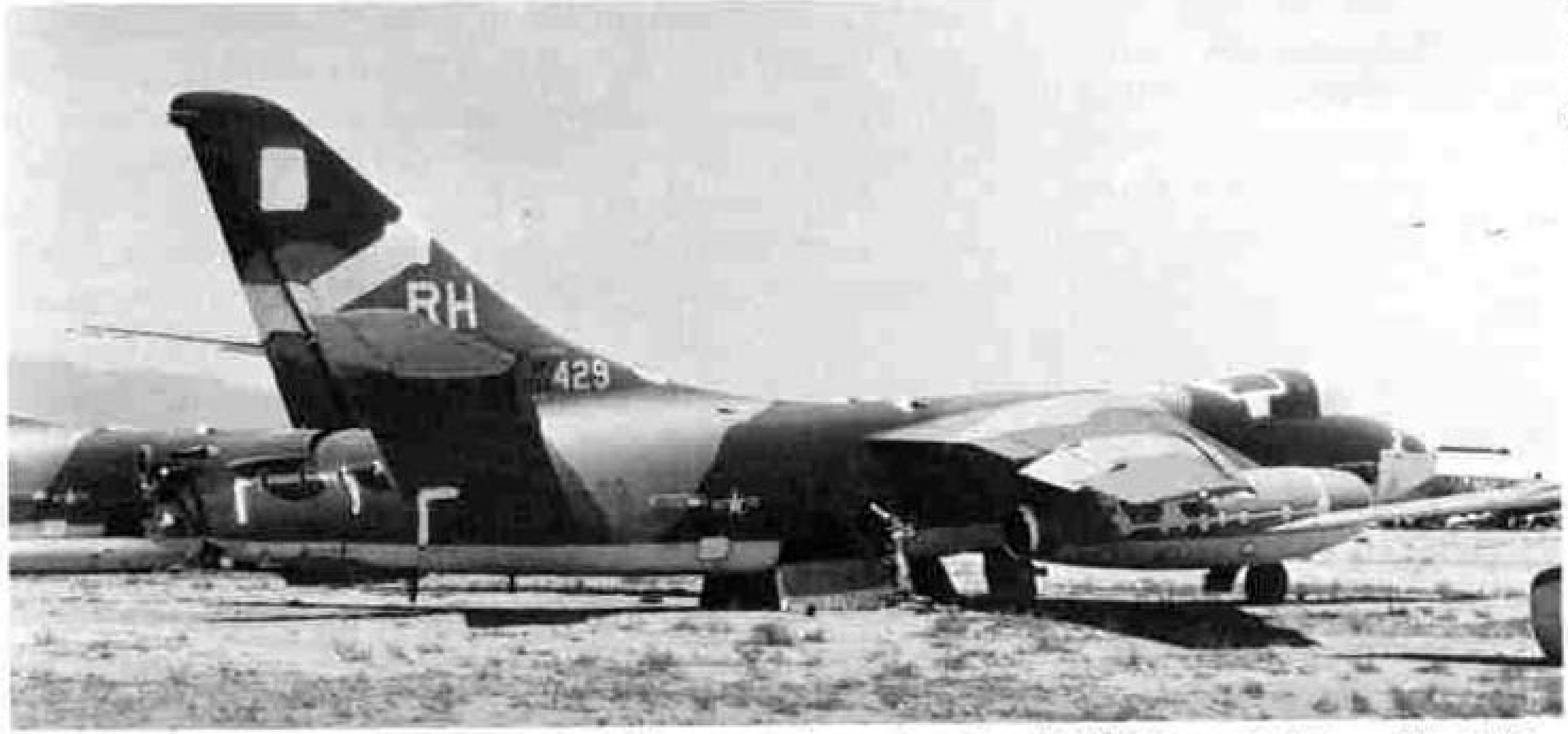
Jean-Pierre Hoehn

EB-66E, 54-424, of the 39th TEWS/36th TFW on June 15, 1971 at Spangdahlem AB. Noteworthy is the special reflective covering over the cockpit area to protect it from sun-generated, greenhouse effect, heat. Unit patch is visible on vertical fin.



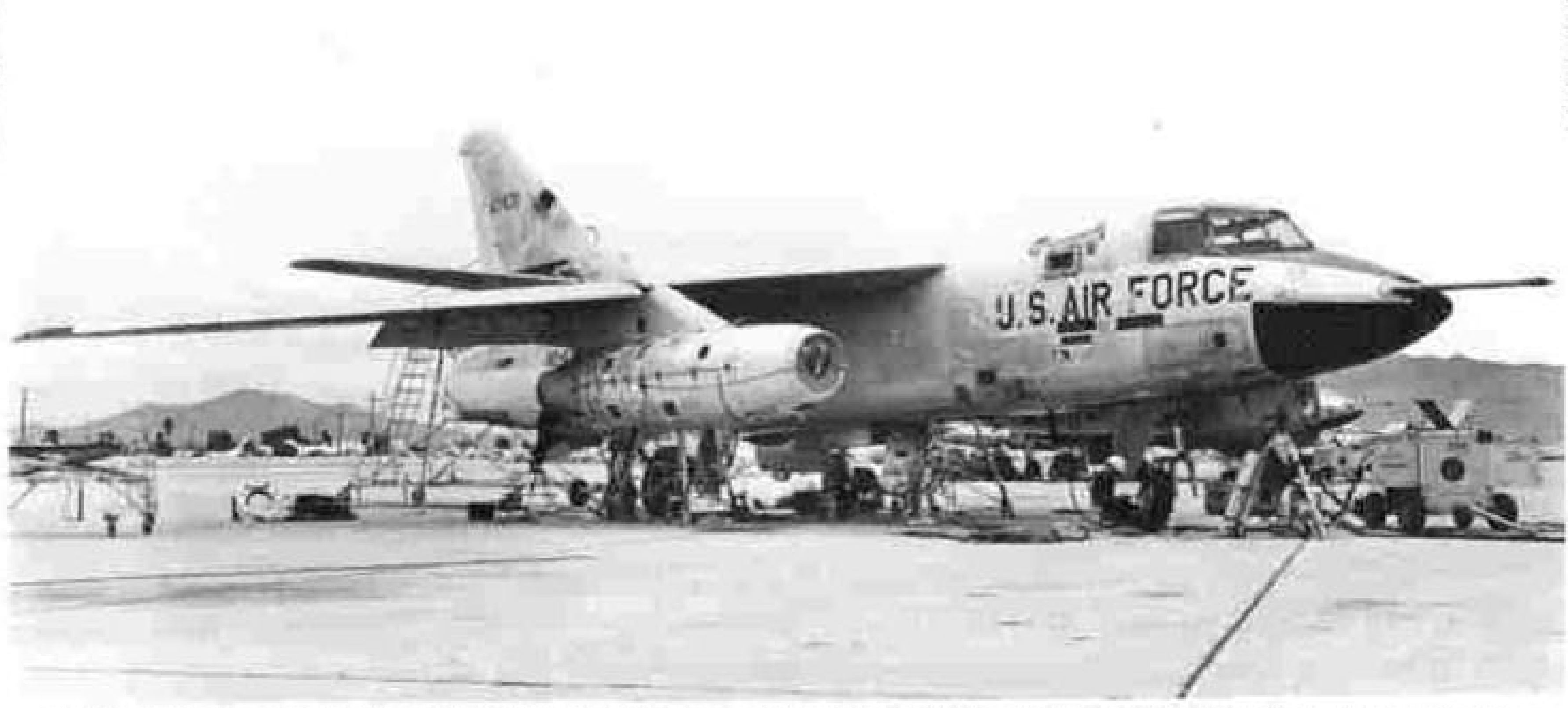
Nick Williams via AAHS

RB-66B, 54-425, of the 363rd TRW during an open house at Andrews AFB. The aircraft is seen in pre-Vietnam era markings, without camouflage paint of any kind. Early EW-type empennage fairing is noteworthy, as is gray painted vertical fin.



Brian Rogers

EB-66E, 54-429, of the 42nd TEWS was delivered to the MASDC on October 12, 1970 and prepared for storage. Sealed and spraylatted, it remained semi-flightworthy until final disposition. Not long after this June 12, 1967 photo, it was scrapped.



Norm Taylor

During January 1969, RB-66B, 54-031 was prepared for delivery to PACAF from Davis-Monthan AFB after having been placed in storage there during January 1965. The dry climate, coupled with refined storage techniques, had preserved the aircraft.

had a crew of three accommodated in a pressurized cockpit. The RB-66Cs and EB-66Cs were active and passive ECM/electronic reconnaissance aircraft with a crew of seven (three in the pressurized cockpit and four in a pressurized fuselage compartment). WB-66Ds were weather reconnaissance aircraft with a crew of five (three in the pressurized cockpit and two in a pressurized fuselage compartment). All of these variants used a common airframe.

Of conventional metal construction, the fuselage was divided into 10 compartments. The nose radome extended from the forward tip to station 76, the pressurized flight compartment occupied the upper part of the fuselage from station 76 to station 204, the forward fuel cell was aft of the cockpit between stations 204 and 265, the nose wheel well was beneath the cockpit from station 76 to station 162 and was followed by a crawlway. The section between stations 265 and 475 occupied the full fuselage cross section and housed the bomb bay (B-66 variant), the cameras and photoflash bombs (RB-66B), the ECM pallet (EB-66B) or racks (EB-66E), the four-seat pressurized compartment (RB-66C), or the two-seat pressurized compartment and some of the weather reconnaissance equipment (WB-66D). Aft of this bay were located the main fuselage fuel tank (between stations 475 and 633), the main gear wheel well, and the aft electronic compartment from station 633 to station 718. The last two compartments, from station 718 to station 788 and from station 788 to the rear, initially were occupied by the tail turret and its associated ammunition, radar, and gun control gear. After the tail turret had been replaced by the ECM equipment and associated tailcone, these sections housed chaff dispensers and, in the case of late EB-66C and EB-66E configurations, an infrared jammer.

The cockpit provided accommodations for a crew of three; the pilot, seated forward and to the left, and the navigator and third crew member (gunner, EWO or observer) seated aft, side by side. In all B-66 versions but one—the EB-66E—the navigator occupied the right aft seat and the third crew member occupied the left aft seat. In the EB-66E, the navigator's station was relocated to the left side of the aircraft, immediately aft of the pilot, and the EWO's station was relocated to the right side.

Accommodations for the RB/EB-66C's four EWOs and the WB-66D's two weather observers were provided in the aft crew compartment, located below and aft of the wing center section. In the RB/EB-66C, four seats were installed in pairs, with two seats located forward of the crew entrance hatch and two aft. In the WB-66D, only the two forward seats were installed.

All crew members sat on Douglas-designed and manufactured ejection seats, those of the cockpit crew ejecting upward and those of the aft compartment crew ejecting downward. The pilot's and right-hand aft seats were adjustable vertically and fore-and-aft, the seat located immediately behind the pilot was not adjustable, and the seats in the aft compartment were adjustable vertically. Recommended minimum and maximum ejection seat limits were 120 KIAS (220 kmh) and 450 KIAS (835 kmh). Under optimum conditions the upward-ejecting seats could be used when the aircraft was flying just above the ground, while the downward-ejecting seats required a minimum altitude of 400 ft. (120 m.); however, it was recommended, whenever possible, to eject above 2,000 ft. (610 m.).

Normal cockpit ingress and egress was by means of steps built into a ventral hatch located just aft of the nose gear. Access to the aft crew compartment was through another ventral hatch located further aft which opened down and inboard. Emergency egress on the ground or after ditching was through three cockpit hatches and a hatch above the aft compartment. Inflight movement between the crew compartments was through a narrow crawlway.

The cockpit and the aft crew compartment normally were pressurized to 5 psi differential over flight pressure; for combat operations the pressure differential was reduced to 2.75 psi in the cockpit. A liquid oxygen system incorporating a 300-psi liquid oxygen converter was installed.

Of two-spar torsion-box construction, the wings were mounted high on the fuselage. Sweepback was 35.9° at the quarter-chord, dihedral was minus 1.5°, aspect ratio was 6.75, incidence was 2°, and wing thickness tapered from 9.95% at the root to 8.25% at the tip. On the RB-66C and EB-66C variants, a podded radome was attached beneath each wing tip, increasing span by two feet (0.61 m.)

Wing movable surfaces included leading edge slats, trailing edge flaps, ailerons, and spoilers. The three-section slats, which extended spanwise from the engine pylons to the wing tips, were actuated automatically by aerodynamic forces to decrease stalling speed. In the closed position, the center and inboard sections conformed to the wing contour, whereas the outboard sections remained open five degrees to provide longitudinal stability at high speeds. The single-slotted, hydraulically actuated flaps were divided into inboard and outboard segments. The inboard and outboard segments extended respectively, from the fuselage to the engine pylons and from the pylons to the ailerons. Maximum flap deflection angle was 60°. A pressure relief valve prevented the flaps from being fully lowered at airspeeds in excess of approximately 184 KIAS (340 kmh). For lateral control, the hydraulically boosted ailerons were fitted with a trim tab and were supplemented by spoilers which were faired into the upper surface of each wing, ahead of the outboard flap segment. When an aileron was moved to an up position, the corresponding spoiler operated from its faired position to an up position (a maximum of approximately 65°) depending upon the position of the aileron. When the aileron returned to its neutral or any down position, the spoiler simultaneously was returned to its faired position.

The horizontal tail surfaces were mounted approximately one-fourth up the vertical fin and had 10° of dihedral and 40° of sweep at the quarter chord. The incidence of the stabilizer was controlled electrically by the pilot or automatically by the autopilot. The elevators, which had no tabs, were hydraulically boosted. The vertical tail surfaces had 45° of sweep at the quarter chord. The hydraulically boosted rudder was built in two segments, with the lower segment being fitted with a tab.

Hydraulically-operated, blowback type speed brakes were installed on each side of the aft fuselage. At 600 KIAS (1,110 kmh) at sea level, the speed brakes could only be opened to approximately 10°; at speeds below 450 KIAS (835 kmh), they could be opened to the full 45°. However, the speed brakes were not synchronized and a momentary asymetric condition often occurred during opening and closing.

The aircraft was equipped with tricycle landing gear consisting of retractable main and nose gear units, which were extended and retracted hydraulically. In addition, to protect the empennage in the event of a tail-down landing, a non-retractable, crush-type tail skid was provided. The main gear doors were opened and closed by the main gear's assist cylinders whereas the nose gear doors were actuated by separate cylinders. The 49x17 single-wheel main gear retracted aft and was fitted with rotor segment, disc brakes. The 36x11 single-wheel nose gear retracted forward and was hydraulically steered by the movement of the rudder pedals.

To decrease landing ground roll, B-66s had a 24 foot (7.32 m.), ring slot-type deceleration chute. This drag chute was deployed manually after all three wheels were on the ground. If the drag chute was deployed inadvertently at an airspeed in excess of 170 knots (315 kmh), attachment pins sheared automatically to jettison the chute.

AVIONICS:

B-66-series aircraft avionics consisted of three major categories of electronic equipment: (1) communication, navigation, and armament electronics; (2) weather reconnaissance electronics; and (3) ECM and associated electronics. The B-66's communication, navigation, and armament electronics were relatively consistent from aircraft to aircraft during its operational life. Weather reconnaissance equipment, installed only on WB-66Ds, changed little after the early installation of the AN/AMQ-7

Dave Menard via Norm Taylor

EB-66E, 54-431, of the 42nd TEWS during reclamation at Clark AB on January 24, 1974. During January 1974, five months after the U.S. Congress mandated an end to U.S. combat operations in Southeast Asia, the PACAF's last EB-66s were removed.

Don Logan

EB-66E, 54-435, of the 388th TFW/42nd TEWS, based at Korat RTAFB, departs on an operational mission during the Vietnam war. "Destroyer" losses were relatively light during the course of the war, but due to the scarcity of the type, sorely felt.

Norm Taylor via Brian Rogers

EB-66E, 54-438, of the 39th TEWTS on June 23, 1972. Noteworthy is the barber's pole paint on the inflight refueling probe. The 39th TEWTS, at Shaw AFB, throughout the Vietnam war provided training to squadrons assigned to the 363rd TRW.

USAF

EB-66E, 54-440, of the 42nd TEWS/355th TFW, in a protective revetment at Takhli RTAFB, Thailand during December 1968. Revetments served to provide a significant fire and shrapnel barrier between aircraft in case of attack.

aerograph system. ECM installations, on the other hand, varied considerably. This was especially true during the Southeast Asian War, when individual aircraft configurations could vary from one mission to the next.

The following table lists the avionics equipment installed on B-66-series aircraft and identifies TCTOs or modifications, where known, which installed retrofit equipment. The TCTO/modification listings should be considered incomplete. The table also includes known QRC projects associated with the B-66, as well as a separate list of QRCs thought—but not confirmed—to be B-66-associated.

Although much information (especially that concerning QRC projects) about the B-66's ECM suite remains obscure, it is possible to provide some details of service ECM systems. Some descriptions are, of necessity, limited by security considerations.

AN/AAQ-4. IRCM set intended to deceive IR missiles, such as the Soviet *Atoll*, and cause them to break lock on the target aircraft.

AN/ALA-5. Pulse analyzer that assisted in the identification of radar installations through analysis of their emissions. The ALA-5 presented intercepted signal PRF and PW information on a CRT display.

AN/ALA-6. Multi-antenna direction-finder group used to display relative and magnetic bearings of intercepted signals in the 65-10,750 MHz frequency range. The ALA-6 used four antenna assemblies, each optimized for different signal frequencies and/or polarizations, to supply intercepted RF emissions to associated receivers such as the APR-9 or APR-14. The video outputs of the receivers were then routed to the ALA-6 azimuth indicator CRT for display.

AN/ALA-32. Steerable jamming antenna system employing three aft-fuselage antennas and two mid-fuselage antennas. The five antennas, housed in two large ventral radomes, were connected to the EB-66C's QRC-279 or ALT-27 jamming transmitters.

AN/ALE-1. Internal chaff dispenser, with dual hoppers, mounted in the ECM tailcone. The two hoppers (left and right) dispensed chaff through a large chute located under the tailcone.

AN/ALE-2. Pod-mounted chaff dispenser, similar to the internally-mounted AN/ALE-1. B-66s could carry two pods, one on each wing external stores pylon.

AN/ALQ-59. Service version of the QRC-128 "Combat Martin" VHF GCI communications and data link jammer.

AN/ALQ-71. Barrage noise jamming pod designed to counter ground-based air defense weapons radars. The early pods operated in S-band; later pods could be configured to operate in S-band, C-band, or both. ALQ-71 was the service version of the QRC-160A-1 pod.

AN/ALR-18. Automatic set-on receiving set, used in conjunction with the ALT-6B countermeasures transmitter. The ALR-18 performed two functions: it detected radar signals in the 8500-10,500 MHz frequency range, and triggered the ALT-6B, which then radiated jamming signals at the detected frequency. The ALR-18 system, which evolved via QRC-100 and QRC-130, may have been coupled, on a QRC basis, with jammers other than the ALT-6B.

AN/ALR-20. Panoramic receiving system which simultaneously detected and displayed to the EWO all RF emissions in the 50-11,000 MHz frequency range. Signal characteristics were displayed on seven CRT traces and two optional expansion traces. The system had a limited "look-through" capability, allowing the EWO to see through his own jamming signals. This "look-through" capability was not available when some jamming transmitters were operated.

AN/ALR-27. Panoramic receiving system which covered the P-through C-band frequency range. Essentially a simplified and miniaturized version of the ALR-20, the system was developed as QRC-315, with associated QRC-316 antennas, and redesignated ALR-27.

AN/ALT-6. Early noise-modulated jamming transmitter which operated in the 2300-5000 MHz frequency range. The ALT-6 was interchangeable, in the original B-66 ECM tailcone configuration, with the ALT-6B, ALT-7, ALT-8 and ALT-8B. The ALT-6 was later replaced by the ALT-6B.

AN/ALT-6B. Noise and frequency-modulated CW jamming transmitter designed to barrage-jam search, tracking, gun-laying, and other radars operating in the 350-10,500 MHz frequency range. The frequency coverage of a given aircraft's ALT-6B installation was variable, depending upon which of ten interchangeable transmitter groups were used.

AN/ALT-7. Swept version of the manually-tuned APT-6 jamming transmitter system. The ALT-7 provided a CW output for spot jamming or a noise-modulated output for barrage jamming. Two ALT-7 sets (low band and high band) were required for coverage of the 21-350 MHz frequency range.

AN/ALT-8. Swept version of the manually-tuned APT-16 jamming transmitter system. The ALT-8 provided frequency coverage in the 1000-7750 MHz frequency range. Replaced by the ALT-8B.

AN/ALT-8B. Noise-modulated CW jamming transmitter system with spot and swept-frequency barrage capabilities. Twelve interchangeable transmitter groups provided coverage over the ALT-8B's 350-10,500 MHz frequency range.

AN/ALT-13. Barrage jamming system designed to cover a wide frequency range. The ALT-13's capabilities could be enhanced through the use of external QRC-218 and -318 modulators. The ALT-13 was replaced by the ALT-28 system.

AN/ALT-15. Barrage jamming sytem which employed the direct noise amplification process to generate random RF noise outputs. The complete ALT-15 system included an ALT-15L (low band) set and an ALT-15H (high band) set. The operating frequency range of each set was divided into four operator-selectable channels. Replaced by the ALT-32 system.

AN/ALT-16. High-power, barrage jamming system which employed the direct noise amplification process. The ALT-16's frequency range was divided into ten operator-selectable channels. The channels could be operated individually, to concentrate the maximum power on a specific threat, or in any combination required. Replaced by the ALT-31 system.

AN/ALT-22. Updated and improved version of the ALT-6B, in which the conventional transmitter magnetron was replaced with a self-noise-modulating barrage magnetron, and a video noise generator was added. The ALT-22 utilized a single transmitter configuration to cover its operating frequency ranges, rather than the ten transmitter groups of the ALT-6B. An external QRC-304A modulator could be used to enhance the ALT-22's capability to counter track-while-scan and conical scan radars.

AN/ALT-27. High-power CW, spot, or barrage jamming system which covered the 350-11,000 MHz frequency range in eight bands. The ALT-27 used a single transmitter chassis configuration with eight plug-in RF oscillator options. The Air Force used only three of the eight bands operationally.

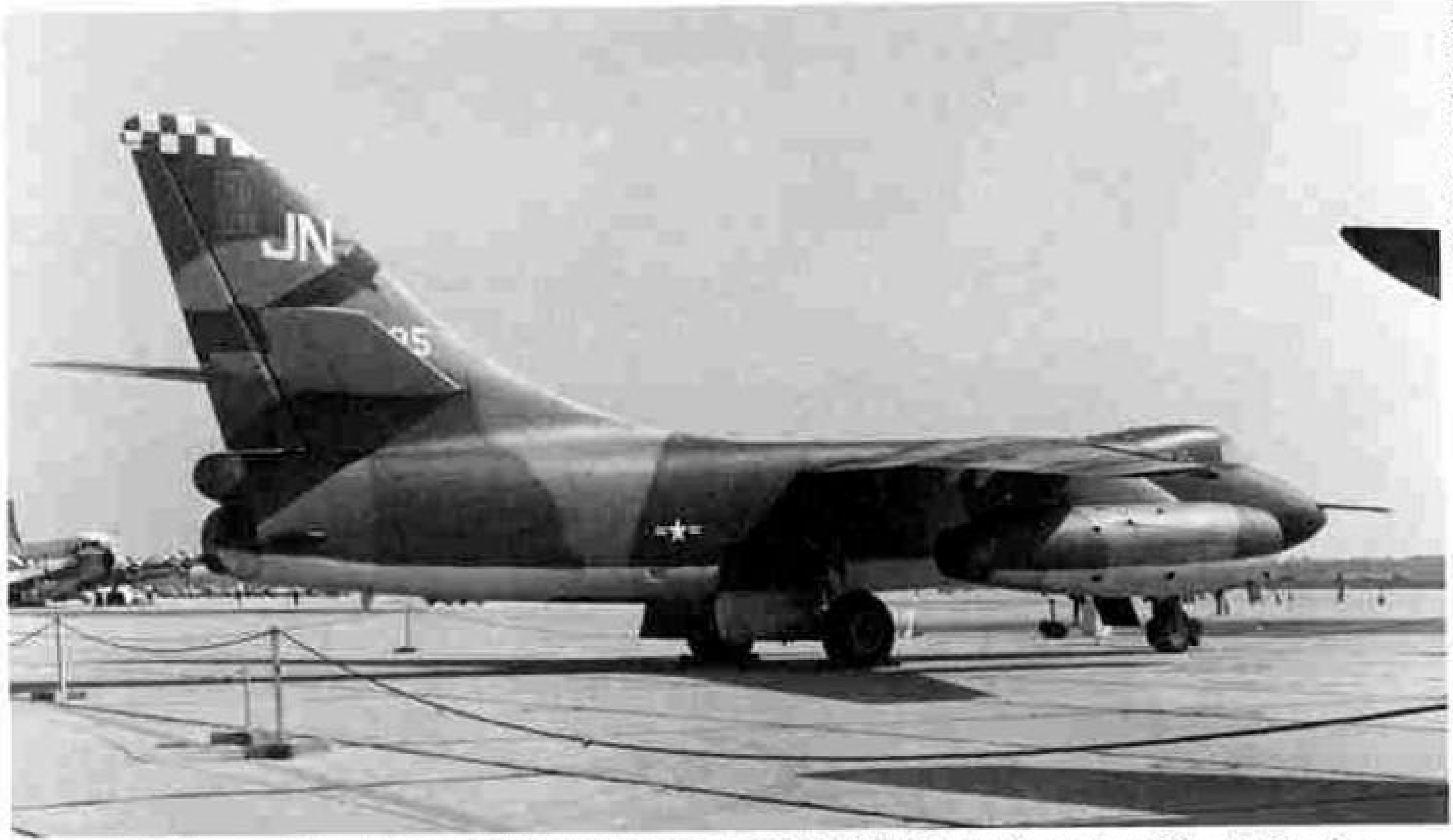
AN/ALT-28. Improved version of the ALT-13 jamming system. The ALT-28 incorporated a programmer unit which provided controls for initiating a variety of programmed jamming techniques.

AN/ALT-31. Improved version of the ALT-16 jamming system. The ALT-16 could employ spot and barrage modes simultaneously. The ALT-13's frequency range was divided into ten operator-selectable barrage channels. Two variable-bandwidth spot channels could also be operated anywhere within the system's frequency range.

AN/ALT-32. Noise-modulated, spot or barrage jamming system which evolved from the ALT-15 via QRC-312 and QRC-312A. The complete ALT-32 system included an ALT-32L (low band) set and an ALT-32H (high band) set.

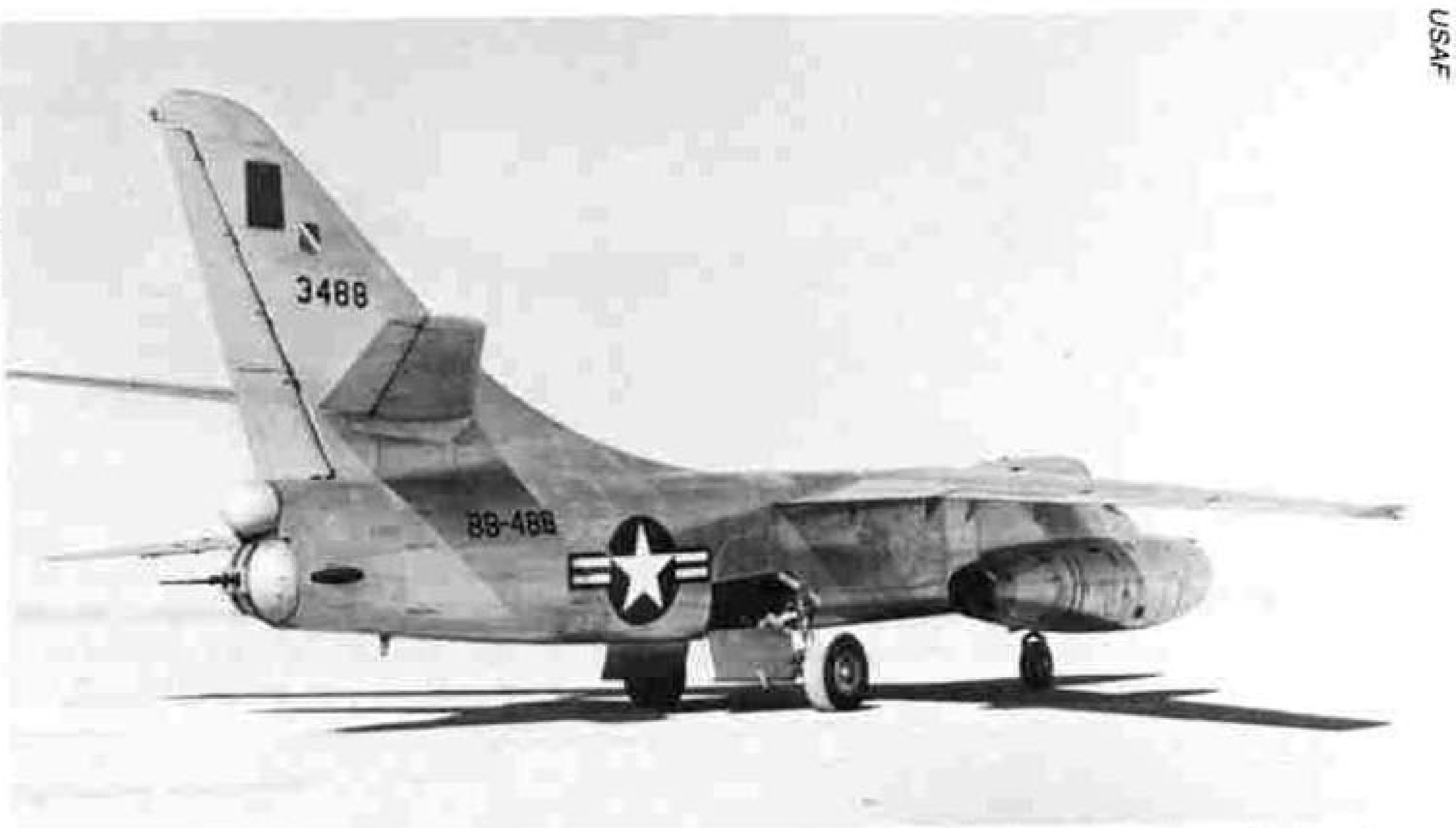
AN/APA-74. Five-trace signal analysis group used to display the PRF, PW, and modulation characteristics of pulsed signals intercepted by external receivers (APR-9 and APR-14).

AN/APR-9B. Radar intercept receiver designed to detect and display pulsed, CW, or MCW signals in the 1000-10,750 MHz frequency range. Video output signals



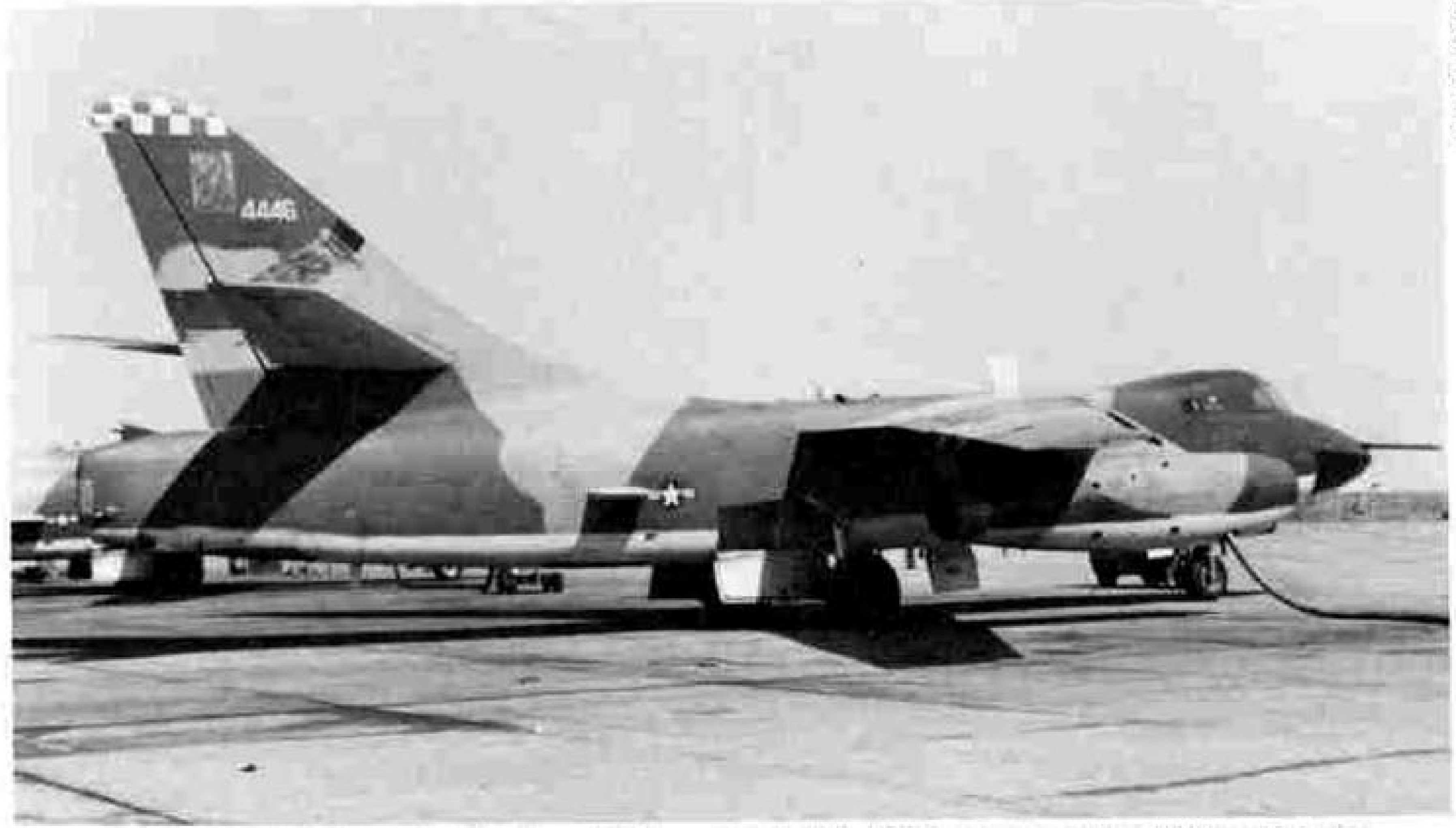
Aerofax, Inc. collection

EB-66B, 53-485, of the 39th TRTS/363rd TRW. Visible is the aircraft's distinctive tail gun installation. As can be seen, however, the guns have been eliminated. Unlike the EB-66E configuration, the EB-66B had very few visible antennas.



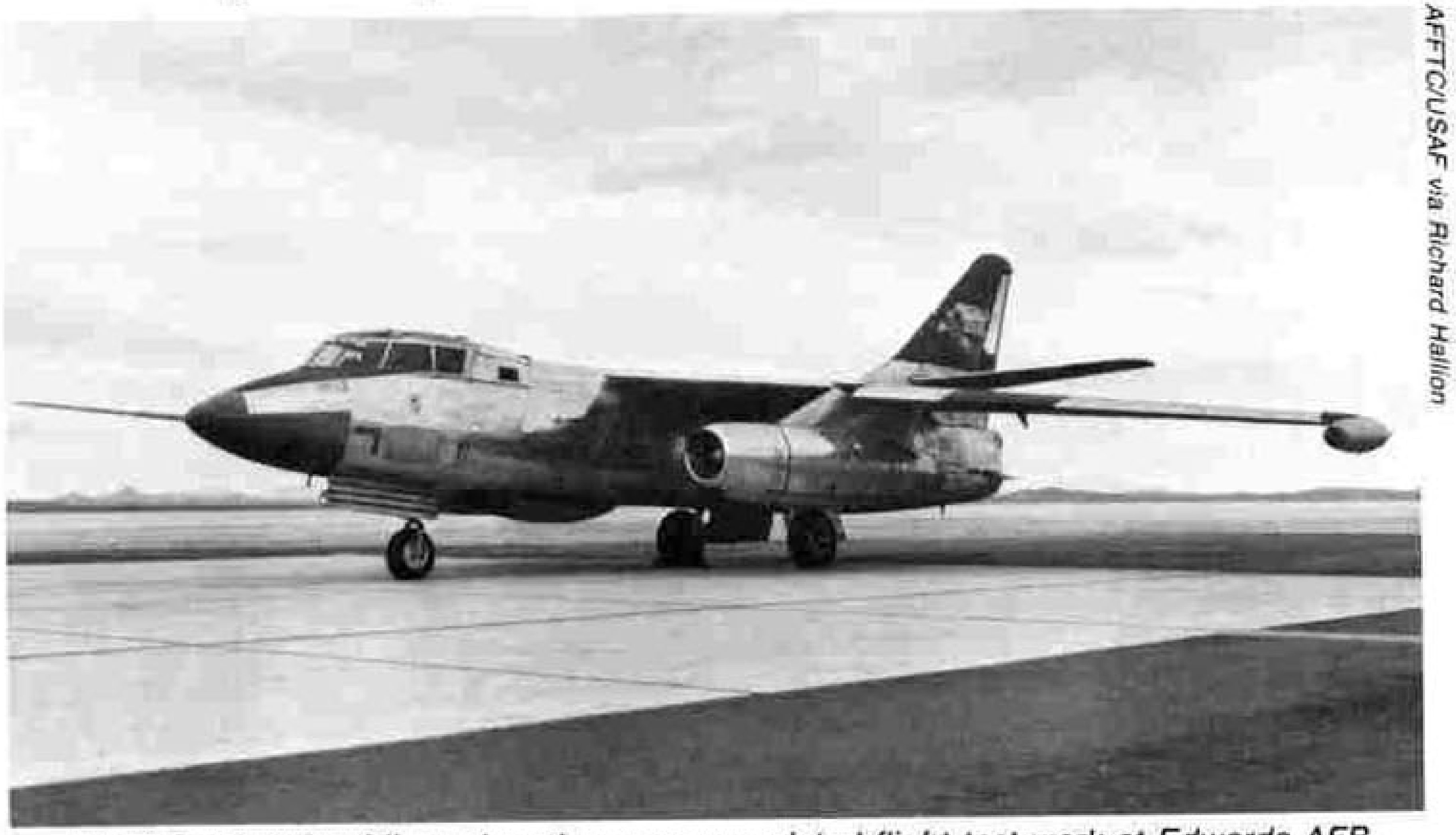
USAF

B-66B, 53-488, during systems test program at Edwards AFB on March 1, 1956 in its original configuration with gun turret tail and minimal markings. Turret was controlled remotely and directly interfaced with the ranging radar unit mounted above.



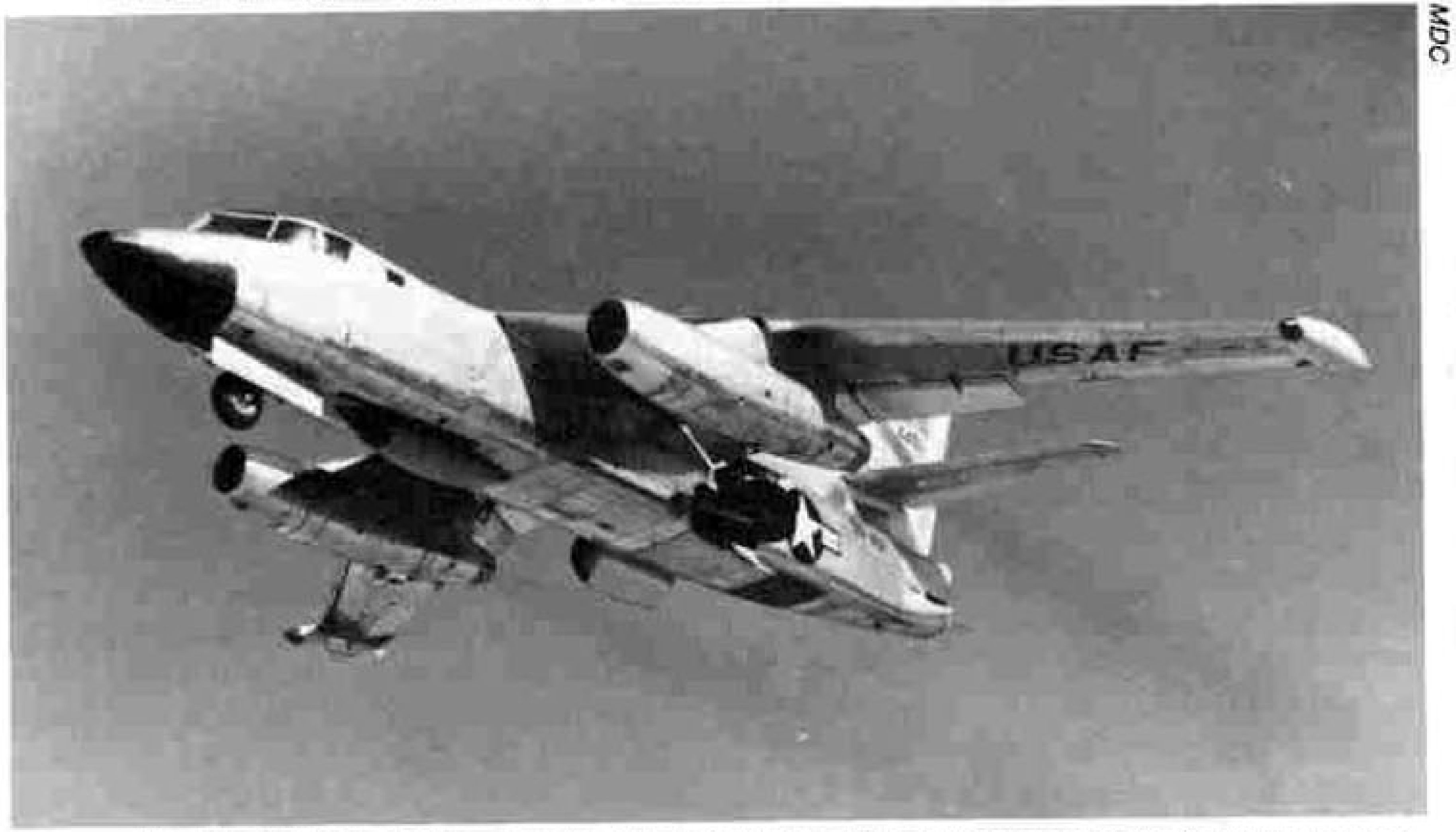
Peter Lewis

EB-66E, 54-446, at McClellan AFB on April 13, 1968. Conventional Vietnam-era camouflage is readily visible, as is heavily modified and updated empennage section fairing and associated EW antenna. APU hose is visible on the right.



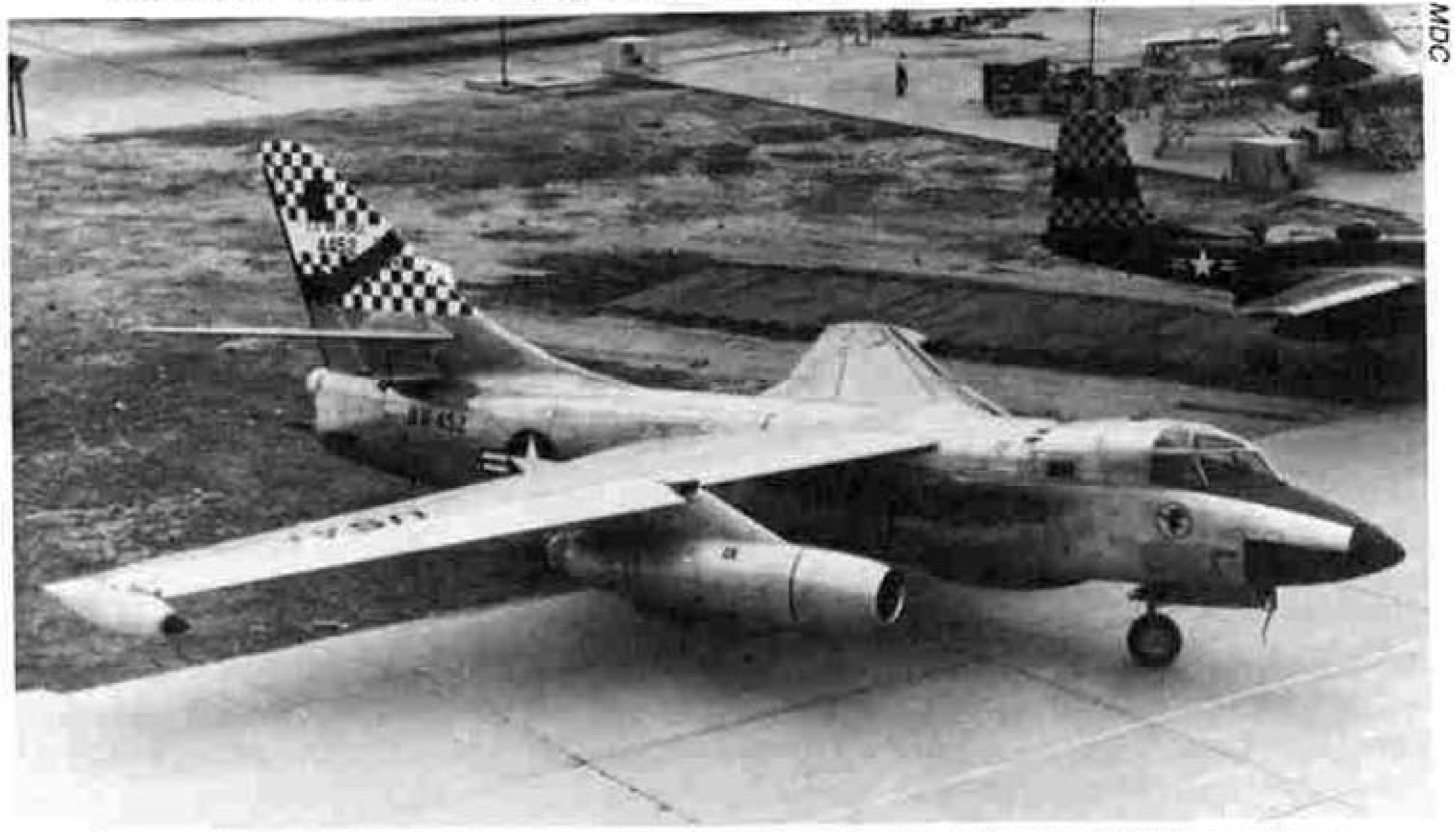
AFFTC/USAF via Richard Hallion

RB-66C, 54-450, while undergoing program-related flight test work at Edwards AFB during the late 1950s. Though EW systems pods are visible on the wingtips, and a fuselage ventral fairing covers EW antenna, the tail remains gun equipped.



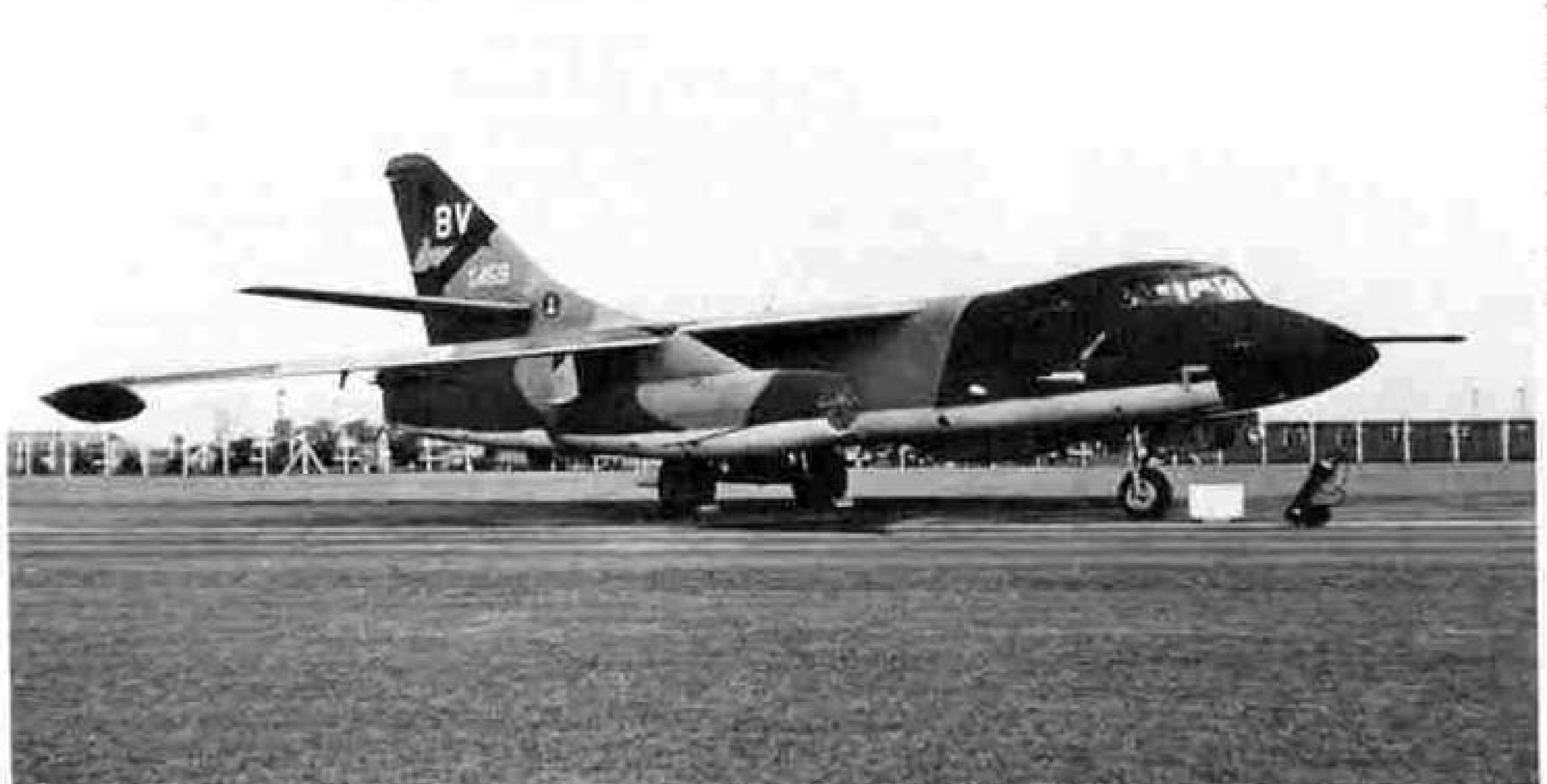
MDC

A modified RB-66C, 54-451, shortly after becoming airborne from the main runway next to the Douglas facility at Tulsa. The nose and main landing gear still are going through their respective retraction cycles as the aircraft accelerates and climbs.



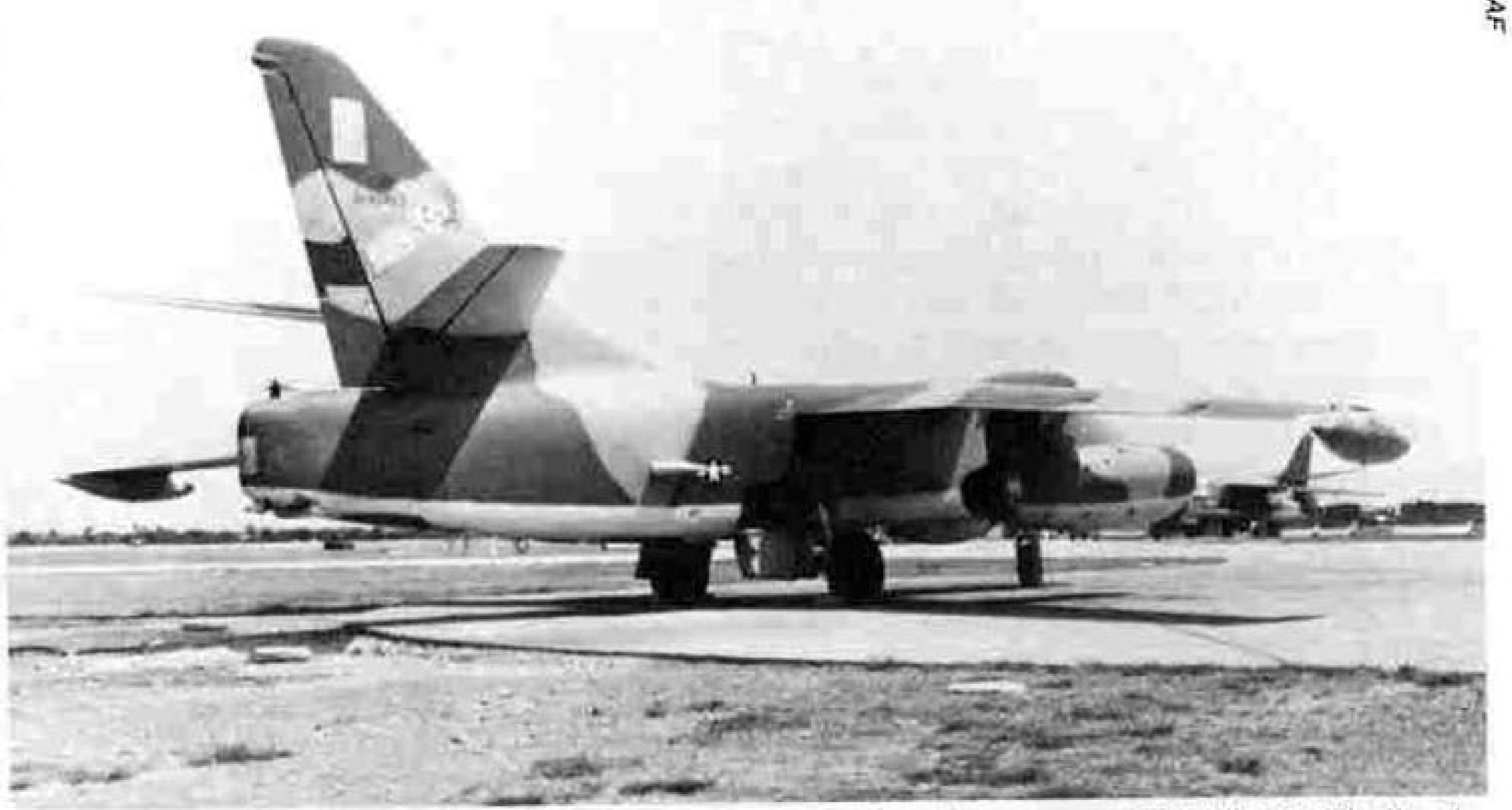
MDC

Checkerboard-tailed RB-66C, 54-452, of the 9th TRS, during the course of systems updating at Douglas' Tulsa facility. Visible on the nose of the aircraft, just below the windscreen, is the distinctive 9th TRS unit patch.



G. Pennick via Dave Menard

EB-66C, 54-459, of the 39th TEWS/36th TFW, at RAF Alconbury on September 5, 1970. Readily visible are the Vietnam-era camouflage, the leading edge flap on the right wing, the ventral EW antenna canoes, and the wingtip EW antenna pods.



USAF

EB-66C, 54-463, of the 355th TFW statically parked on the ramp at Takhli AB, Thailand during 1967. Visible are the empennage-mounted EW antennas, chaff dump, and ventral antenna fairings peculiar to this particular "Destroyer" configuration.

were provided to external analysis and direction-finding equipment.

AN/APR-14. Radar intercept receiver designed to detect and display AM and FM signals in the 300-1000 MHz frequency range. Video output signals were provided to external analysis and direction-finding equipment.

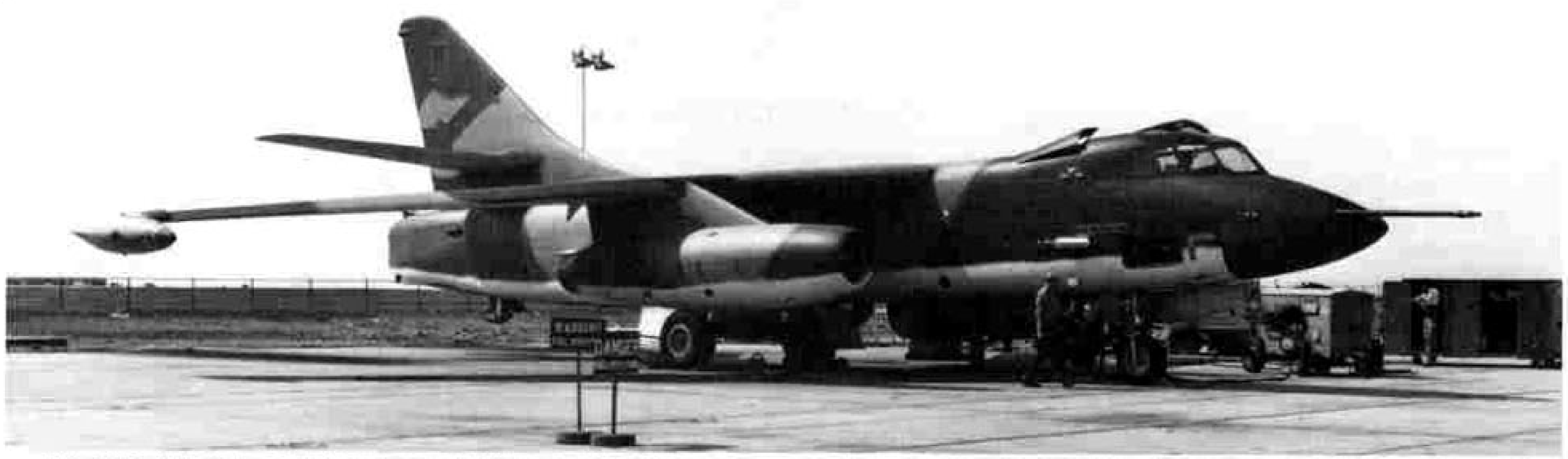
AN/APR-25. RHAW system which detected and provided generic identification of radar threat signals in the S-, C- and X-bands. Threat displays were presented in the form of coded strobes on a CRT azimuth indicator, with strobe position indicating rough bearing to the threat; illuminated threat display unit "billboard" lights; and audio alerts. Two APR-25 configurations—prequalified, characterized by a seven-light threat display unit, and qualified, characterized by a ten-light threat display unit—were used aboard B-66s.

AN/APR-26. SAM launch warning receiver which operated in conjunction with the APR-25. The APR-26 detected L-band missile guidance signals and presented visual and audible alert indications. Like the APR-25, the APR-26 was used aboard B-66s in both prequalified and qualified configurations.

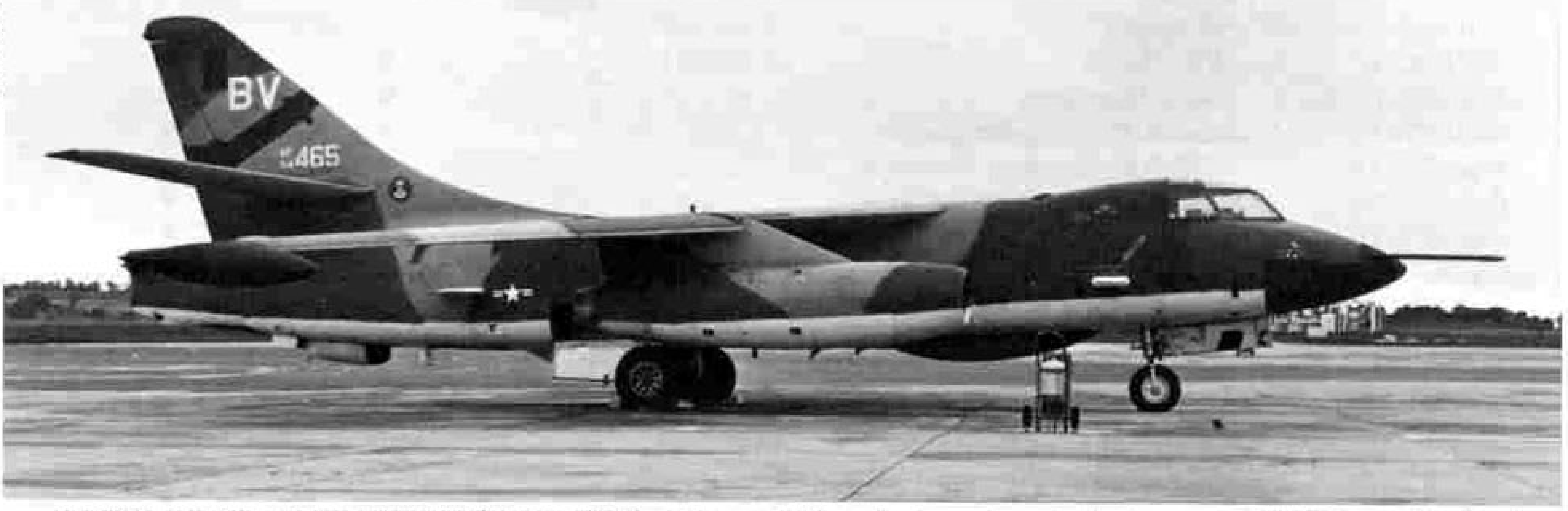
AN/APS-54. Early, unsophisticated radar warning receiver which operated in the 2600-11,000 MHz frequency range. The APS-54 presented visual and audible warning indications when it detected pulsed radar signals.

AN/ARR-8B. Radio receiver which detected and panoramically displayed RF signals in the 70-990 MHz frequency range.

AN/ASQ-96. Electronic reconnaissance system flight-tested in the late 1960s and early 1970s. The ASQ-96 was designed to precisely locate and identify emitters operating in the 500-12,000 MHz frequency range, and to relay intercepted data to a ground station in real-time or near real-time. Cancelled in 1972 or 1973.


MDC

EB-66C, 54-464, nearing the end of a modification program at Douglas' Tulsa facility that converted it from the R/C to the E/C configuration. Many of these major configuration changes, which involved the incorporation of significant EW systems improvements, were undertaken by Douglas at the Tulsa plant.

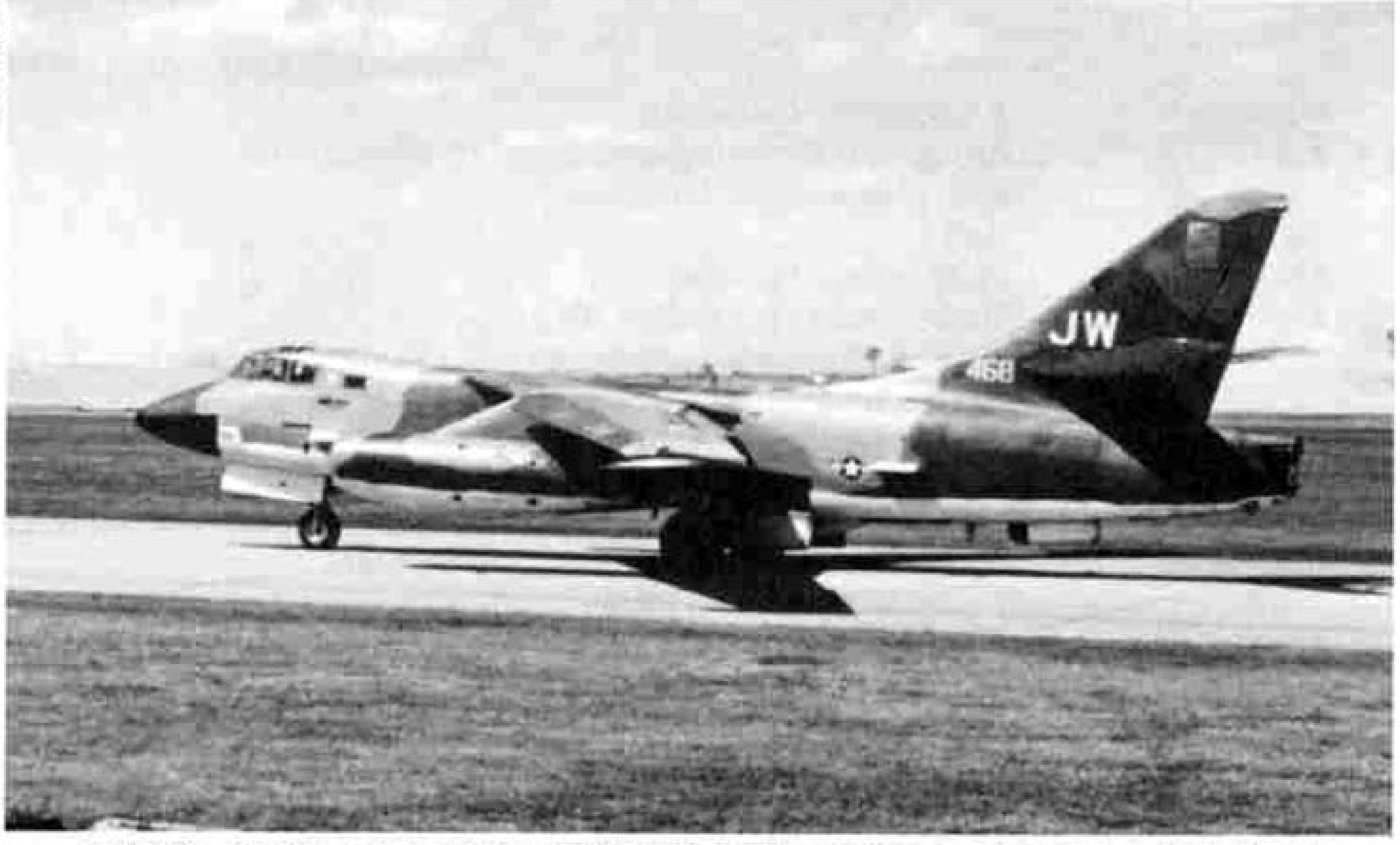


Jerry Geer

EB-66C, 54-465, of the 39th TEWS/36th TFW at Spangdahlem during a transient stopover at RAF Upper Heyford during June 1971. Peculiar to the EB-66C variant were the three separate EW antenna canoes mounted underneath the fuselage. Later "Destroyer" EW configurations exposed the antennas in ventral "farms".

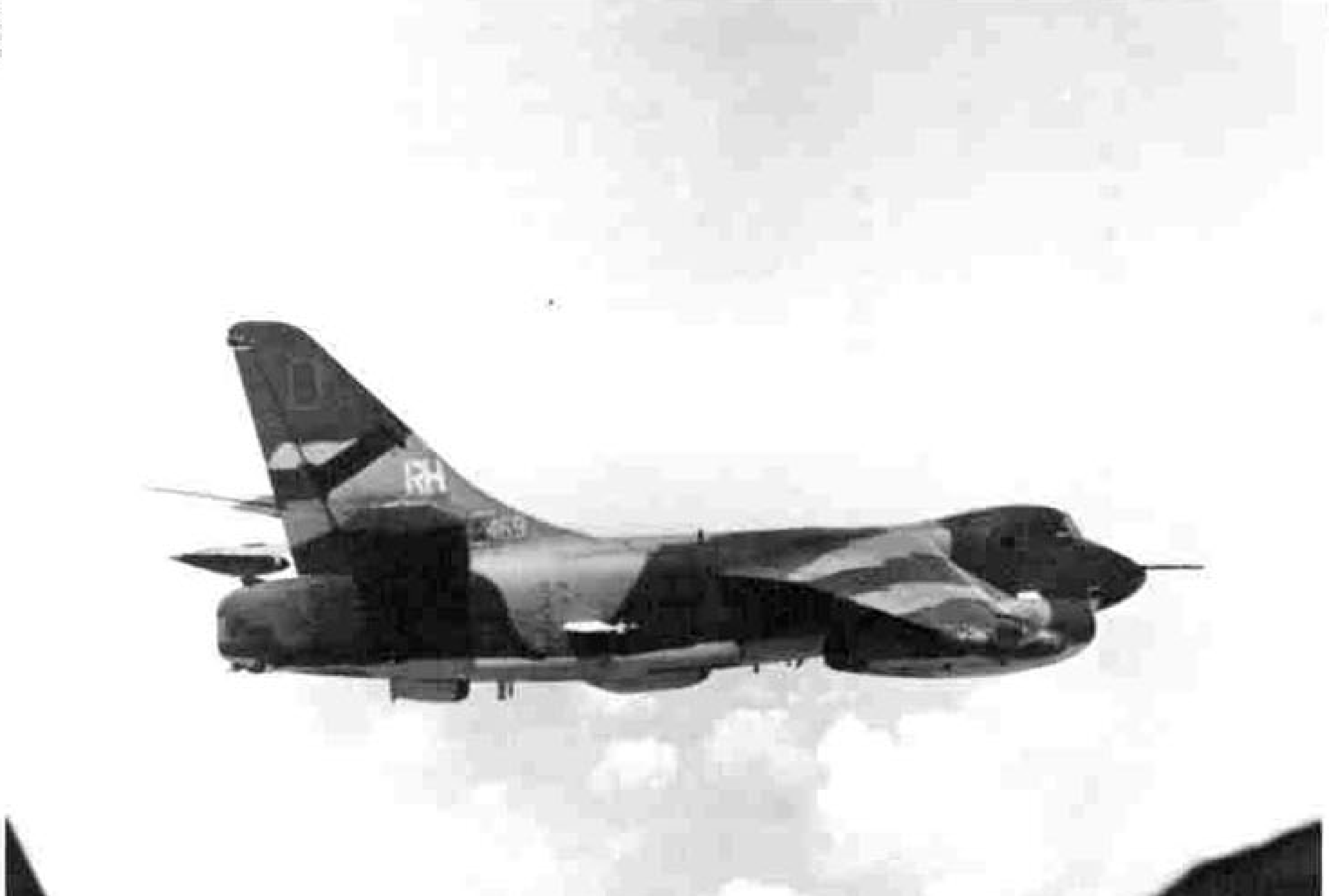
Don Logan

EB-66C, 54-466, at Korat RTAFB during the early 1970s. The aircraft was being prepared for an afternoon combat mission and auxiliary power carts providing both electricity and compressed air (for engine compressor section spool-up) are visible.



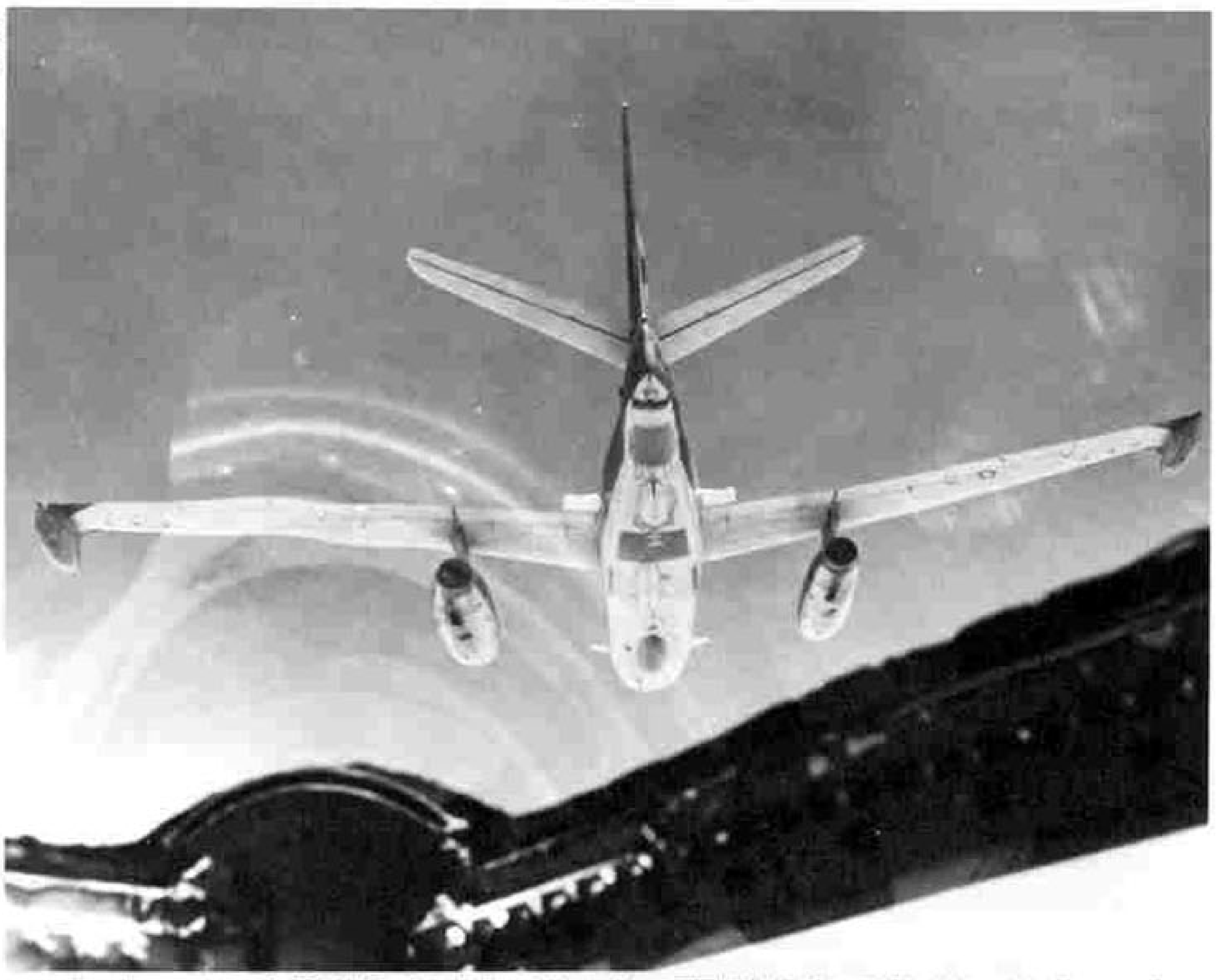
Don Logan

EB-66C, 54-468, of the 42nd TEWS/388th TFW, taxies out on mision from Korat RTAFB, Thailand, during the early 1970s. EB-66C's distinctive aft ventral antenna canoe is readily visible. Up to four EW officers could be carried.



USAF

EB-66C, 54-469, of the 42nd TEWS/355th TFW, enroute to mission patrol area somewhere over Southeast Asia on March 6, 1970. Readily visible in this view are the EB-66C's unique ventral antenna canoes and empennage configuration.


USAF

Another view of EB-66C, 54-469, of the 42nd TEWS/355th TFW. Though distorted by the photo "Destroyer's" canopy, this image provides detail of the various side-mounted EW system antennas and the off-set positioning of the ventral canoes.

B-66 AVIONICS MATRIX

Equipment	Function	Incorporated By: (TCTO or MOD)	Aircraft B-66B	*Brown Cradle* B-66B/ EB-66B	RB-66B	RB/EB-66C	WB-66D	EB-66E
COMMUNICATION, NAVIGATION, AND ARMAMENT ELECTRONIC EQUIPMENT								
AN/AIC-10	Interphone		●	●	●	●	●	●
AN/ANH-2	Wire Recorder		●	●	●	●	●	●
AN/APA-90	Indicator for APW-11A		●	●	●	●	●	
AN/APN-22	Radar Altimeter				●	●		●
AN/APN-82	Radar Navigation System				●	●	●	●
AN/APS-27	Search Radar				●			●
AN/APS-63	Search Radar					●	●	
AN/APW-11A	Flight Command System/ Radar Beacon/IFF		●	●	●	●	●	
AN/APX-6 or -25	IFF		●	●	●	●	●	APX-25 only
AN/ARA-26	Emergency Keyer (Automatic HF transmission of SOS and aircraft number)				●			
AN/ARC-21 or -65	HF Radio	1B-66-950		●	●	●	●	●
AN/ARC-27	UHF Radio	1B-66-834	●	●	●	●	●	●
AN/ARN-6	Radio Compass		●	●	●	●	●	●
AN/ARN-12	Marker Beacon Receiver		●	●	●	●	●	●
AN/ARN-14	VOR/ILS Localizer Receiver		●	●	●	●	●	●
AN/ARN-18	ILS Glide Slope Receiver		●	●	●	●	●	●
AN/ARN-21	TACAN	1B-66-832	●	●	●	●	●	●
CV-357/A	Frequency Shift Converter (Used with TT-76/GGC and ARC-21 or ARC-65)						●	
K-5	Radar Navigation and Bombing System		●	●				
KY-28	Coder (Used with ARC-27 for secure voice communications)	1B-66-953		●		●		●
MD-1/MD-1A	Fire Control System for Tail Turret Guns		●	●	●	●	●	
SCR-718E	Radio Altimeter						●	
TT-76/GGC	Teletypewriter						●	
WEATHER RECONNAISSANCE ELECTRONIC EQUIPMENT								
AN/AME-1	Radiosonde Dispenser						●	
AN/AMQ-7	Aerograph System (Humidity and Temperature Measuring Set)	1B-66(W)D-505					●	
AN/AMR-3	Radiosonde Receiver						●	
AN/AMT-6	Radiosonde Transmitter (Eight expendable, parachute-borne AMT-6 Units were carried and dispensed by the AME-1)						●	
ELECTRONIC COUNTERMEASURES AND ASSOCIATED EQUIPMENT								
AN/AAQ-4	IRCM Set	1B-66-975		Test only		●		●
AN/ALA-5	Pulse Analyzer					●		
AN/ALA-6	Direction Finder					●		
AN/ALA-32	Steerable Jamming Antenna System	1B-66(E)C-550				●		
AN/ALE-1	Internal Chaff Dispenser		●	●	●	●	●	●
AN/ALE-2	Chaff Dispenser Pod		●	●	●	●	●	●
AN/ALQ-59	VHF Communications Jammer	1B-66B-565, 1B-66-954		●				●
AN/ALQ-71	ECM Pod	1B-66-546		●	●	●	●	●
AN/ALR-18	Automatic Set-on Receiver for ALT-6B	1B-66-932, 1B-66-954, *Green Dragon* Mod.		●	●	●		●
AN/ALR-20	Panoramic Receiver	1B-66-954						●
AN/ALR-27	Panoramic Receiver	1B-66(E)B-568		●				
AN/ALT-6	Jammer		●	●	●	●	●	
AN/ALT-6B	Jammer		●	●	●	●	●	●
AN/ALT-7	Jammer		●	●	●	●	●	●
AN/ALT-8	Jammer		●	●	●	●	●	
AN/ALT-8B	Jammer		●	●	●	●	●	●
AN/ALT-13	Jammer			●		●		●
AN/ALT-15	Jammer	1B-66-947		●		●		●
AN/ALT-16	Jammer			●		●		●
AN/ALT-22	Jammer	1B-66B-954, and ?		●				●
AN/ALT-27	Jammer	1B-66(E)C-551				●		
AN/ALT-31	Jammer	1B-66-954, and ?		●		●		●
AN/ALT-32	Jammer	1B-66-954, 1B-66(E)B-568, and ?		●		●		●
AN/APA-74	Pulse Analyzer					●		
AN/APD-4	Instantaneous Airborne Direction Finder					●		
AN/APR-9B	Radar Intercept Receiver					●		
AN/APR-14	Radar Intercept Receiver					●		
AN/APR-25	RHAW System	1B-66-951, 1B-66-954		●		●		●
AN/APR-26	SAM Launch Warning Receiver	1B-66-951, 1B-66-954		●		●		●
AN/APS-54	Radar Warning Receiver		●	●	●	●	●	●

B-66 Avionics Matrix, Cont.

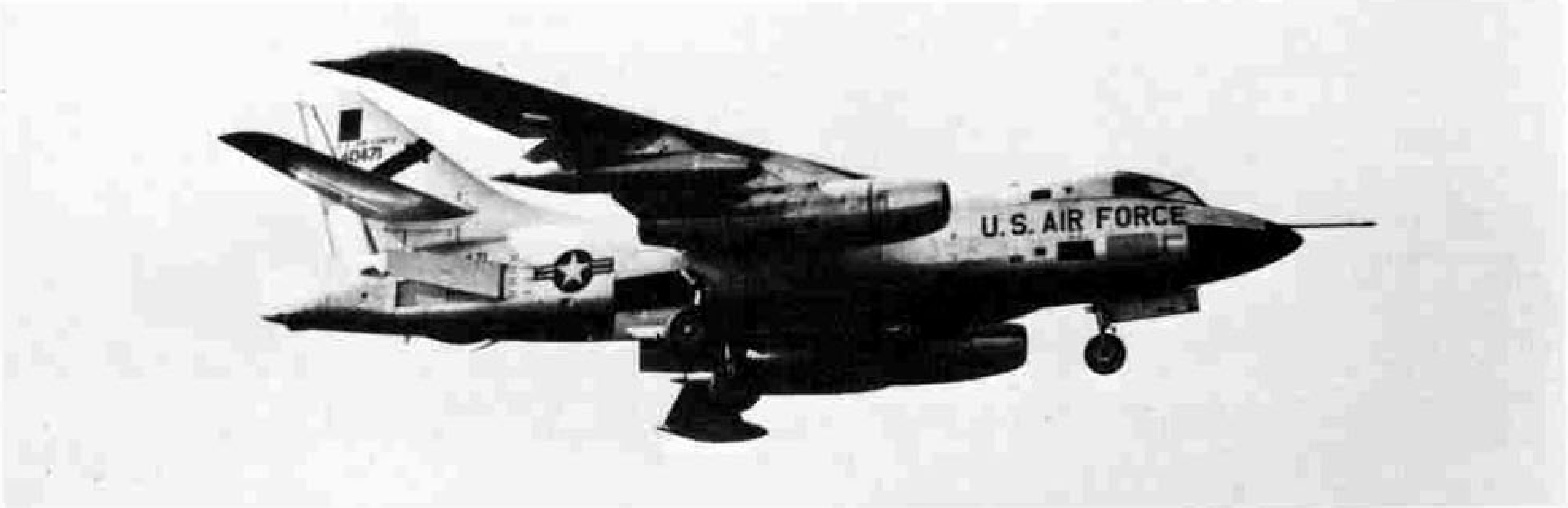
AN/ARR-8B	Radar and Communications Receiver				●		
AN/ASQ-96	Real-Time Electronic Reconnaissance System (Tested, but not deployed)				Test only		Test only (?)
QRC-63	PRF Discriminator for APD-4				●		
QRC-65	VHF Communications Jammer		●	●			
QRC-95	Jammer	*Green Dragon* Mod.	●	●			
QRC-100	Automatic Set-on Receiver for ALT-6B (ALR-18 predecessor)	1B-66(R)B-540	●	●			
QRC-103B	Jammer (QRC version of ALT-15)	*Green Dragon* Mod.	●	●			
QRC-105	Noise Suppressor for APR-9B				●		
QRC-114	Jammer (QRC version of ALT-16	*Green Dragon* Mod.	●	●			
QRC-115 series	Antennas	*Green Dragon* Mod.	●	●			
QRC-128	VHF Communications Jammer (QRC version of ALQ-59)	1B-66B-565	●				
QRC-158-2A	Antenna		●		●		●
-3	Antenna		●				
-4T	Antenna				●		
-5	Antenna				●		●
-6	Antenna		●				
-11	Antenna		●				●
-13	Antenna		●		●		●
QRC-158A-6(T)	Antenna				●		●
QRC-160A-1(T)	ECM Pod (QRC version of ALQ-71)	1B-66-546	●	●	●	●	●
QRC-169A(T)	Antenna for QRC-128/ALQ-59	1B-66B-565	●				●
QRC-218A(T)	Modulator for ALT-13		●		●		●
QRC-279A(T)	Jammer	1B-66-954, and ?			●		●
QRC-292A(T)	Preamp and Power Supply for APR-14	1B-66(E)C-548			●		
QRC-304A	Programmer for ALT-22	1B-66-954, 1B-66(E)B-568	●				●
QRC-305	Remote Tuner Indicator for APR-9B				●		
QRC-306	Antenna Drive for ALA-6	1B-66(E)C-548			●		
QRC-310/-310A	14-Channel Recorder	1B-66(E)C-548			●		
QRC-311/-311A	APR-14 Enhancements	1B-66(E)C-548			●		
QRC-312	Jammer (ALT-15 Modification)		●		●		●
QRC-312A	Jammer (Improved QRC-312)		●		●		?
QRC-315	Panoramic Receiver (QRC version of ALR-27)	1B-66(E)B-568	●				
QRC-316 series	Antennas for QRC-315/ALR-27 and ALR-20	1B-66(E)B-568, 1B-66-954	●				●
QRC-318	Modulator and Programmer for ALT-13	1B-66(E)B-568	●				●
QRC-526	Flight Test of Prototype ASQ-96 System				●		
	POSSIBLE B-66-ASSOCIATED QRC PROJECTS						
QRC-130	Automatic Set-on Receiver for ALT-6B (QRC version of ALR-18)		?	?			
QRC-133	Jammer (QRC version of ALT-13)		?				
QRC-319	Antennas						
QRC-327	Steerable Jamming Antenna System (Possibly QRC version of ALA-32)				?		
QRC-344	ALT-13 Antennas		?		?		?
QRC-359	Improved ALT-16 (QRC version of ALT-31)		?		?		?
QRC-370	Light-Weight Chaff		?	?	?		?
QRC-399	"Have Cable" IRCM Set (Possibly QRC version of AAQ-4)		?				

POWERPLANT:

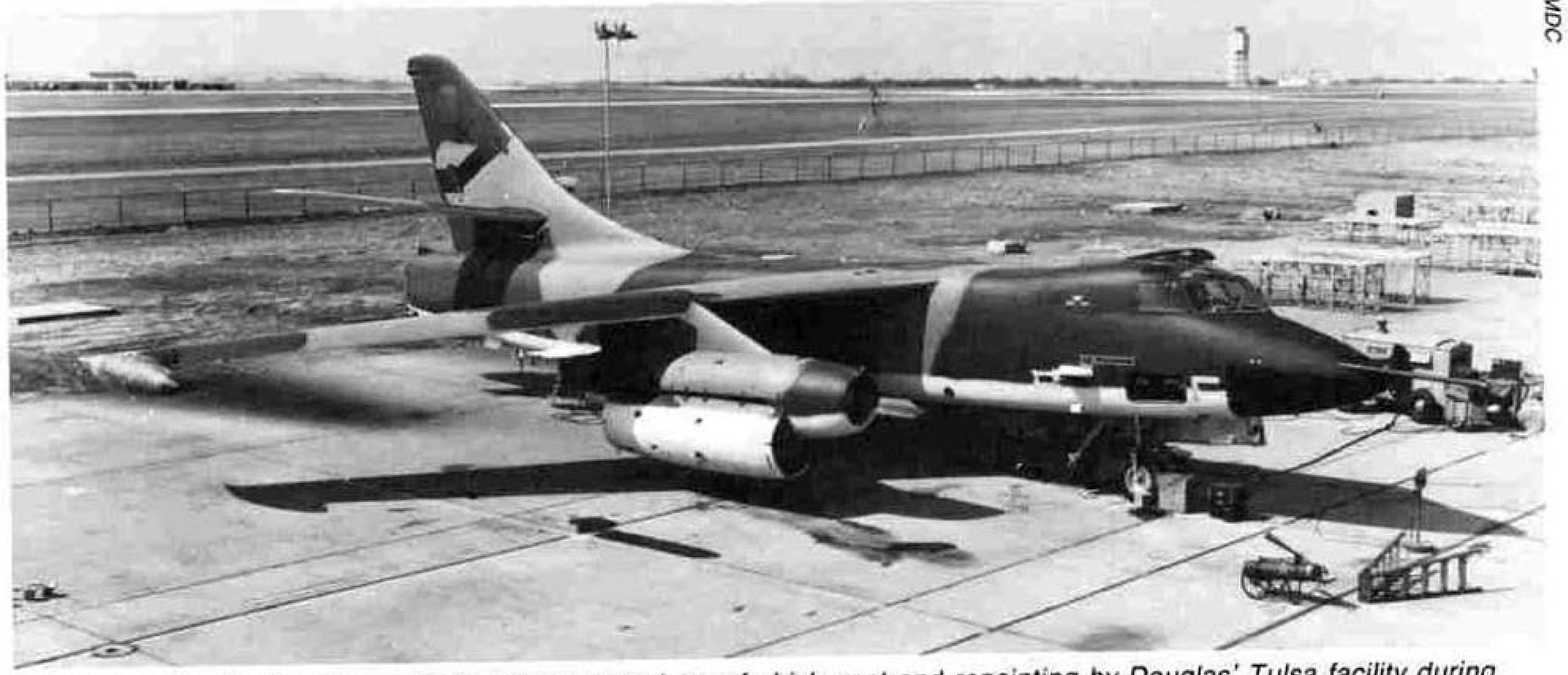
B-66 variants were powered by two Allison J71-A-13 turbojet engines with the following sea level static thrust ratings: maximum, 10,200 lbs. (4,627 kg.) at 6,175 rpm; military, 9,700 lbs. (4,400 kg.) at 6,100 rpm; and normal, 8,090 lbs. (3,670 kg.) at 5,950 rpm. Dry engine weight was 4,090 lbs. (1,855 kg.), length 191.4 inches (4.86 m.), and diameter 39.5 inches (1.00 m.). Each engine consisted of a single-entry, 16-stage, axial-flow compressor, a set of 10 inner combustion chambers of the cylindrical through-flow type, a three-stage turbine, and a variable exhaust nozzle.

Each J71 was housed in a nacelle which was attached to the wing by a pylon. The upper main section of each nacelle was permanently attached to the pylon and had provisions for attaching hoists to raise or lower the engine during engine removal or installation. Other major nacelle

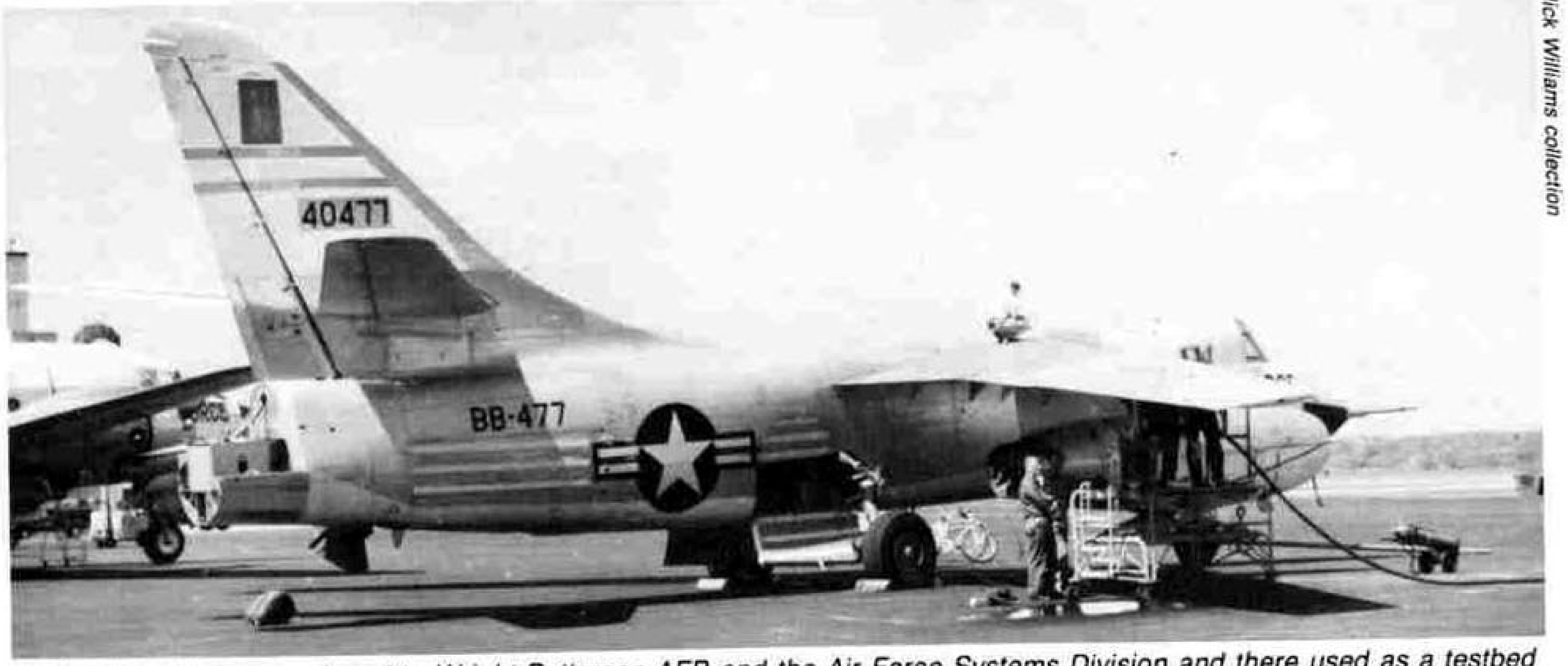
Yukio Enomoto



On final to Yokota AB in Japan, RB-66C, 54-471 is equipped with the rarely seen pylon-mounted drop tanks. Also visible are the extended airbrakes. After the inactivation of the 11th TRS on March 8, 1960, the unit's RB-66Cs and WB-66Ds were ferried back to CONUS and disbursed to other units.

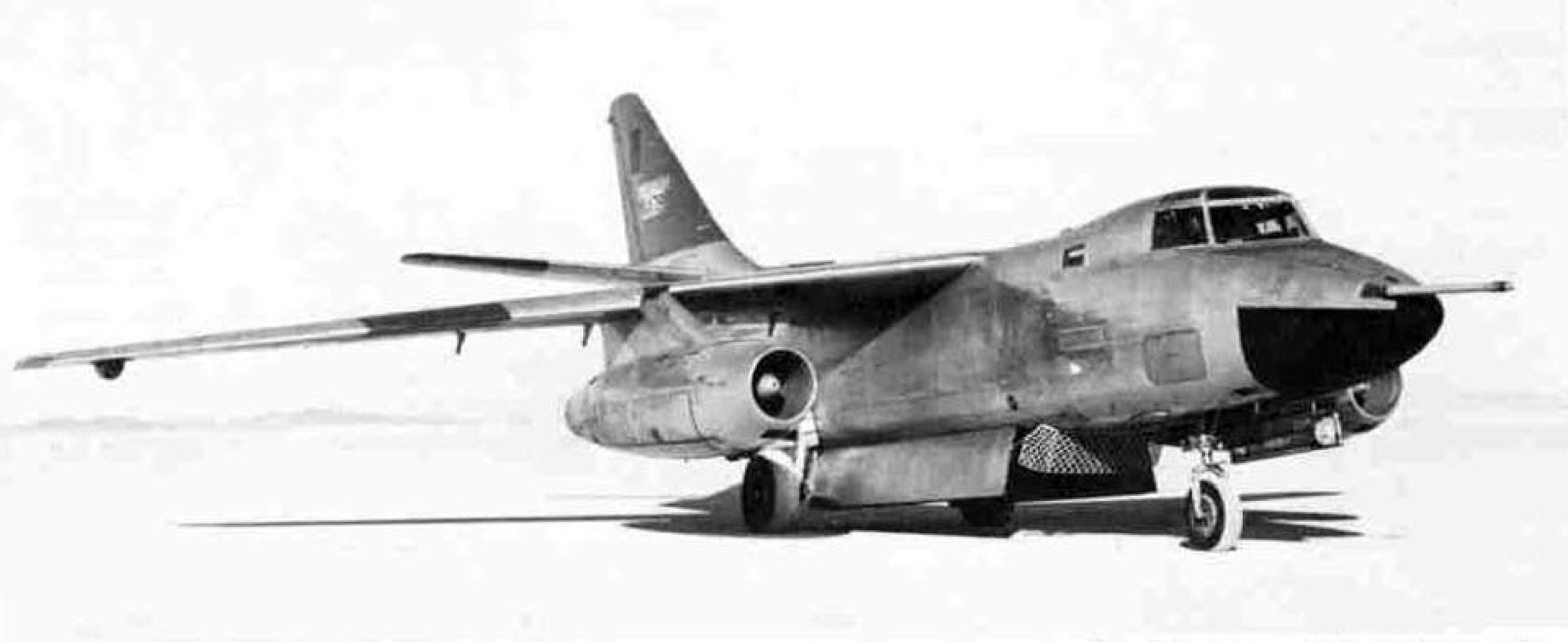

MDC

Undergoing final systems checks after a complete refurbishment and repainting by Douglas' Tulsa facility during July 1966, EB-66C, 54-473, nears its first post-modification flight. Readily visible in this view is the single-piece engine nacelle panel assembly which is completely removable for powerplant access.

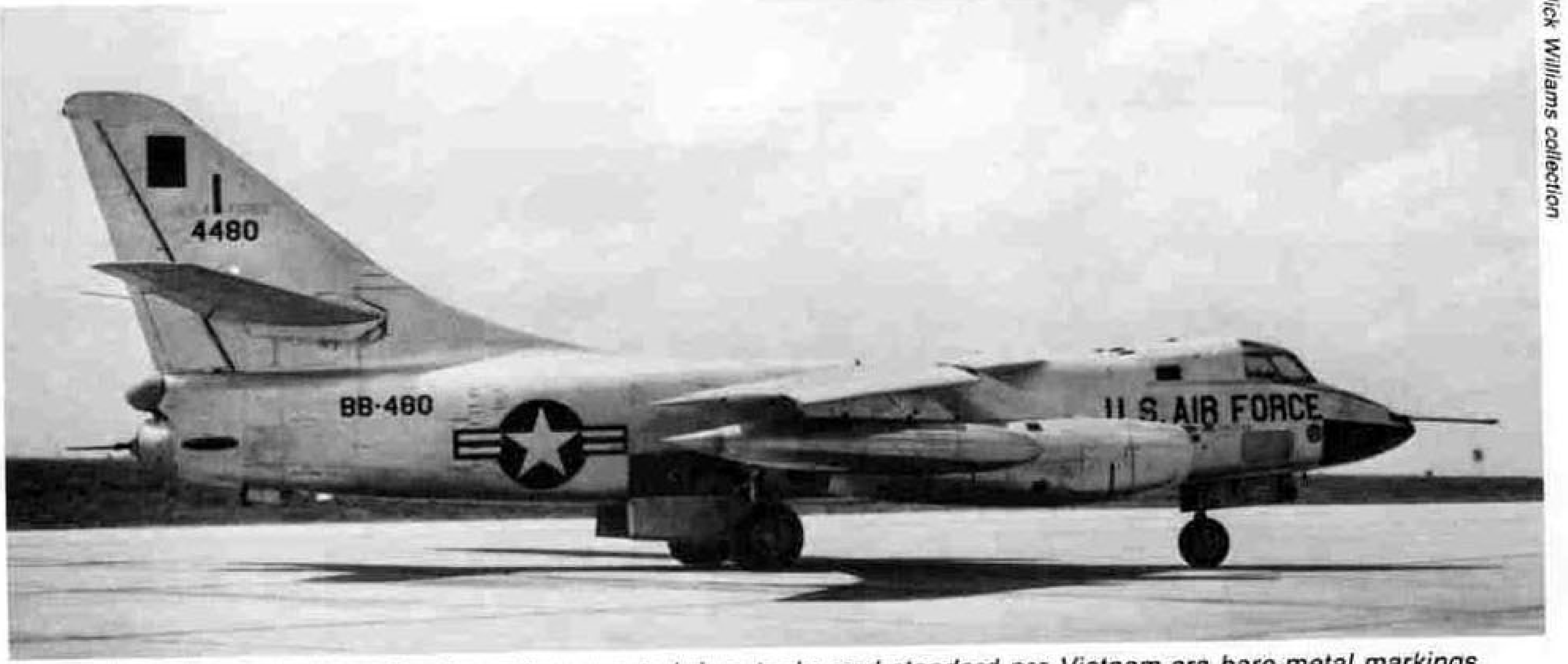


Nick Williams collection

B-66B, 54-477, was assigned to Wright-Patterson AFB and the Air Force Systems Division and there used as a testbed for a variety of brake and drag chute systems. Visible is the special empennage modification to accommodate the drag chute assembly, and the special wing spoiler to destroy lift during high speed taxi runs.


USAF

Revealing photo of weapons test B-66B, 54-479, at Edwards AFB on November 26, 1957. Noteworthy is the bomb bay spoiler designed to eliminate the buffeting associated with bay door opening and weapons release. A camera fairing is mounted under the right wingtip to accommodate weapons release photo requirements.



Nick Williams collection

Stock B-66B, 54-480, with wing pylon-mounted drop tanks and standard pre-Vietnam-era bare-metal markings. The tail gun turret and ranging radar system were still functional and the aircraft did not carry any dedicated EW systems, other than those few specifically optimized for defense.

sections were the nose ring, the door—which swung open on two hinges for access to the lower engine section, and the titanium-lined tail cone. The demountable power section (engine, engine control cable, pneumatic ducting, engine accessories, piping, electrical wiring, and air intake duct) could be removed and replaced in approximately 1 hour and 15 minutes. An external receptacle was provided on the right side of each nacelle for connection with the external compressed air supply used for ground starting of the engines. In addition, the nacelles initially were equipped with retractable air intake screens, installed in the inlet duct, to prevent foreign particles from entering and damaging the engines. These screens could be electrically extended or retracted either by the pilot or automatically; in auto mode, the screens were extended when the landing gear was fully down and locked, and retracted as soon as the gear started to retract. However, as it cut down thrust markedly without proving effective as a FOD prevention device, the screen system was deactivated in accordance with a TCTO dated February 10, 1968.

The aircraft fuel supply system consisted of two integral wing tanks, two self-sealing fuselage tanks, and two external drop tanks. The aft fuselage tank was the main tank and normally supplied fuel for the engines. Although the fuel tanks could be filled through individual servicing ports, all internal tanks were normally filled through a single-point ground refueling receptacle. Fuel capacities were as follows:

(gallons/liters)	Tank capacity (gallons/liters)	Usable capacity
Aft fuselage	1,852/7,010	1,842/6,973
Forward fuselage	1,074/4,065	1,071/4,054
Left wing	742/2,809	736/2,786
Right wing	742/2,809	736/2,786
Total internal fuel	4,410/16,693	4,385/16,599
External tanks	2x451/1,707	2x450/1,703
Total fuel	5,312/20,107	5,285/20,005

The B-66 series aircraft also were fitted with an inflight refueling system consisting of a probe located on the right side of the aircraft nose section (yet another difference with the *Skywarrior* as the A-3's probe was on the left side!). The B-66 probe had a diameter of 3.25 inches (8.25 cm.) and a length of 9 ft. (2.74 m.), of which 6 ft. (1.83 m.) extended beyond the fuselage, to permit air refueling at an average rate of 600 gallons (2,270 liters) per minute.

Fuel type specified was MIL-F-5624, grade JP-4/NATO F-40. Alternate fuels included MIL-T-5624 (JP-5/NATO F-44); commercial Jet A, Jet A-1 or Jet B; or Avgas with 3% grade 1100 oil. Engine oil (7.5 gallons/28 liters for each engine) was MIL-L-7808 (NATO 0-148). Fifteen gallons (57 liters) of hydraulic fluid were to specification MIL-0-5606 (NATO H-515).

B-66 series aircraft were delivered with RATO systems consisting of twelve Aerojet 15KS-100 solid fuel bottles. Each unit could deliver 1,000 lbs. (454 kg.) th. for 15 seconds and was attached by retractable hooks to the fuselage side aft of the main wheel doors. However, in service most aircraft had the ATO system deactivated.

B-66 SQUADRONS:

BOMBARDMENT SQUADRONS:

34th Bombardment Squadron (Tactical): Converted from B-57As to B-66Bs at Hulburt Field in 1956 while part of 17th BW, TAC. Moved to RAF Sculthorpe on January 18, 1958 and inactivated there on June 25, 1958 when its B-66Bs were transferred to the 84th BS.

37th Bombardment Squadron (Tactical): Converted from B-26B/Cs to B-66Bs at Hurlburt Field in 1956 while part of the 17th BW, TAC. Moved to RAF Alconbury on May 12, 1958 and inactivated there on June 25, 1958 when its B-66Bs were transferred to the 86th BS.

84th Bombardment Squadron (Tactical): Stationed at RAF Sculthorpe during June 1958, as part of 47th BW, USAFE, took over B-66Bs of 34th BS to replace its B-45As. Inactivated on June 22, 1962.

85th Bombardment Squadron (Tactical): Stationed at RAF Sculthorpe during June 1958, as part of 47th BW, USAFE, took over B-66Bs of 95th BS to replace its B-45As. Inactivated on June 22, 1962.

86th Bombardment Squadron (Tactical); Stationed at RAF Alconbury during June 1958, as part of 47th BW, USAFE, took over B-66Bs of 37th BS to replace its

B-45As. Moved to RAF Sculthorpe on August 5, 1959 and inactivated there on June 22, 1962.

95th Bombardment Squadron (Tactical): Converted from B-26B/Cs to B-66Bs at Hurlburt Field during 1956 while part of the 17th BW, TAC. Moved to RAF North Creake on June 23, 1958 and inactivated two days later when its B-66Bs were transferred to the 85th BS.

TACTICAL RECONNAISSANCE SQUADRONS:

1st Tactical Reconnaissance Squadron (Night Photographic): Converted from RB-57As to RB-66Bs in mid-1958 while assigned to the 10th TRW, USAFE, at Spangdahlem AB. Moved to RAF Alconbury in August 1959, and remained there until converted to RF-4Cs in 1965.

9th Tactical Reconnaissance Squadron (Electronics and Weather): Converted during 1956 from RB-26Cs and WT-33As to RB-66C/WB-66Ds while assigned to 363rd TRG, TAC, at Shaw AFB. Inactivated on July 1, 1966.

11th Tactical Reconnaissance Squadron (Electronics and Weather): Converted from RB/WB-26Cs to RB-66C/WB-66Ds beginning during August 1957, while assigned to the 67th TRW, PACAF, at Yokota AB. Inactivated there on March 8, 1960.

12th Tactical Reconnaissance (Night Photographic): Converted from RB-26C to RB-66Bs beginning during December 1956, while assigned to the 67th TRW, PACAF, at Yokota AB. Inactivated there on March 8, 1960.

16th Tactical Reconnaissance Squadron (Night Photographic): Converted from RB-26Cs to RB-66Bs during 1956 while assigned to the 363rd TRG, TAC, at Shaw AFB.

19th Tactical Reconnaissance Squadron (Night Photographic): Converted from RB-45Cs to RB-66Bs during 1957 while assigned to the 66th TRW, USAFE, and based at RAF Sculthorpe. Attached and then assigned to 10th TRW, USAFE, at Spangdahlem AB from January 1958, until August 1959, and at RAF Alconbury from August, 1959, until July 1965. Assigned to the 26th TRW, USAFE, at Toul-Rosieres AB during July 1965, and then transferred during October 1965, to the 25th TRW, USAFE, at Chambley AB from October 1965 until September 1966. Redesignated 19th TEWS while with 363rd TRW, TAC, at Shaw AFB, from September 1966 until December 1968. Sent a detachment to South Korea and Itazuke AB during February 1968, as part of *Combat Fox*, the reinforcement of U.S. forces following the *Pueblo* incident. As 29th TEWS transferred to the 18th TFW at Kadena AB during December 1968.

30th Tactical Reconnaissance Squadron (Night Photographic): Converted from RB-57As to RB-66Bs during the fall of 1957 while assigned to the 66th TRW at Sembach AB. Transferred during March 1958, to the 10th TRW, USAFE, and based at Spangdahlem AB until August 1959, and at RAF Alconbury until converted to RF-4Cs during 1965.

39th Tactical Reconnaissance Squadron: Redesignated from 4417th CCTS while serving with 363rd TRW, TAC, at Shaw AFB from February 1967, and then redesignated 39th Tactical Electronic Warfare Squadron during October 1969.

41st Tactical Reconnaissance Squadron (Night Photographic): Converted from RB-57As to RB-66Bs during 1956 while assigned to the 363rd TRW, TAC, at Shaw AFB. Inactivated on May 18, 1959 while still assigned to the 363rd TRW. Designation given during 1956 to a new unit in Vietnam; see 41st TEWS.

42nd Tactical Reconnaissance Squadron (Electronics and Weather): Converted from WT-33As to RB-66C/WB-66Ds during the fall of 1957 while assigned to the 10th TRW, USAFE, at Spangdahlem AB. Moved to RAF Alconbury during August 1959, and remained there until transferred to the 25th TRW, USAFE, at Chambley AB during October 1965. Inactivated at Chambley AB on August 22, 1966.

43rd Tactical Reconnaissance Squadron (Night Photographic): Converted from RB-57As to RB-66Bs during 1957 while assigned to the 363rd TRW, TAC, at Shaw AFB. Temporarily attached to the 432nd TRW during February-April 1959, but inactivated on May 18, 1959 while still assigned to 363rd TRW.

TACTICAL ELECTRONIC WARFARE SQUADRONS:

19th Tactical Electronic Warfare Squadron: Transferred from 363rd TRW to 18th TFW at Kadena AB during December 1968. Maintained a detachment at Itazuke AB until May 1969. Disbanded at Kadena AB on October 30, 1970.

39th Tactical Electronic Warfare Squadron: with 36th TFW, USAFE, at Bitburg AB from April 1969 until December 1971, then with 52nd TFW, USAFE, at Spangdahlem AB from December 1971 until December 1972.

39th Tactical Electronic Warfare Training Squadron: Redesignated from 39th TRTS while serving with the 363rd TRW, TAC, at Shaw AFB during October 1969. Inactivated on March 15, 1974.

41st Tactical Electronic Warfare Squadron: Activated on October 29, 1965 to operate RB-66Cs from Takhli RTAFB while attached directly to the 2nd Air Division. Attached to the 355th TFW at Takhli RTAFB on November 8, 1965 and soon redesignated 41st TEWS. Assigned to the 460th TRW at Tan Son Thut AB from February to September 1966; assigned to the 432nd TRW at Udorn RTAFB from September 1966, until August 1967. Reassigned to the 355th TFW at Takhli RTAFB from August 1967, until inactivated in October 1969.

42nd Tactical Electronic Warfare Squadron: Redesignated from 6460th TEWS during January 1968, and flew RB/EB-66s with 355th TFW at Takhli RTAFB until transferred during September 1970, to the 388th TFW at Korat RTAFB. Still with the 388th TFW at Korat RTAFB when operations ceased during January 1974; inactivated on March 15, 1974.

6460th Tactical Electronic Warfare Squadron: With 460th TRW at Tan Son Nhut AB from June 8, 1966 until September 18, 1966; with 432nd TRW at Udorn RTAFB from September 1966, until transferred to the 355th TFW at Takhli RTAFB during August 1967. Redesignated 42nd TEWS during January 1968.

6461st Tactical Electronic Warfare Squadron: With 460th TRW at Tan Son Nhut AB from July 29, 1966 until September 18, 1966; with 432nd TRW at Udorn RTAFB from September 18, 1966 until October 25, 1966. Not operational from October 25, 1966 until inactivated on November 8, 1966.

COMBAT CREW TRAINING SQUADRONS:

4416th Combat Crew Training Squadron: Redesignated from 4416th TS during July 1967, while serving with 363rd TRW, TAC, at Shaw AFB. Inactivated during 1970.

4417th Combat Crew Training Squadron: Activated on July 1, 1966 with 363rd TRW, TAC, at Shaw AFB; redesignated 39th TRTS during February 1967.

TEST SQUADRON:

4416th Test Squadron: Assigned to 363rd TRW, TAC, at Shaw AFB from July 1966 until July 1967.

DISTINCTIVE UNIT AIRCRAFT IDENTIFICATION MARKINGS:

BV	39th TEWS, 36th TFW, USAFE 39th TEWS, 52nd TFW, USAFE
JM	4416th TS, 363rd TRW, TAC
JN	4417th CCTS, 363rd TRW, TAC 39th TRTS, 363rd TRW, TAC 39th TEWTS, 363rd TRW, TAC
JW	42nd TEWS, 388th TFW, PACAF
RC	41st TEWS, 355th TFW, PACAF
RH	42nd TEWS, 355th TFW, PACAF
SP	39th TEWS, 52nd TFW, USAFE
ZT	19th TEWS, 18th TFW, PACAF

PRODUCTION AND SERIAL NUMBERS:

MODEL	USAF SERIAL NUMBERS	NOS. BUILT	REMARKS
USAF Contract AF 33(600)-9649 dated January 31, 1952			
RB-66A-DL	52-2828 to 52-2832	5	
JRB-66A-DL	52-2828	(1)	[1]
USAF Contract AF 33(600)-16314 dated April 24, 1952			
RB-66B-DL	53-409 to 53-481	73	
JRB-66B-DL	53-412	(1)	[2]
NRB-66B-DL	53-421	(1)	[3]
EB-66E-DL	53-479 & 53-480	(2)	[4]
B-66B-DL	53-482 to 53-507	26	
EB-66B-DL	53-482, -484 to -487, -489, -491 to -493, & -495 to -498	(13)	[5]
NB-66B-DL	53-488	(1)	[6]
USAF Contract AF 33(600)-25669 dated June 12, 1953			
RB-66B-DL	54-417 to 54-446	30	
EB-66E-DL	54-417, -419, -420, -423, -424, -426, -427, -429, -431, -434, -435, -438 to -443, -445, & -446	(19)	[4]
RB-66C-DT	54-447 to 54-476	30	
B-66B-DL	54-477 to 54-505	29	
NB-66B-DL	54-481	(1)	[6]
RB-66B-DL	54-506 to 54-547	42	
EB-66E-DL	54-506 to -511, -514 to -516, -519 to -529, -531 to -534, -536, -537, -539, -540, -542, & -546	(30)	[4]
B-66B-DL	54-548 to 54-551	4	
USAF Contract AF 33(600)-28368 dated September 24, 1954			
B-66B-DL	55-302 to 55-314	13	
RB-66C-DT	55-384 to 55-389	6	
WB-66D-DT	55-390 to 55-425	36	
JWB-66D-DT	55-390	(1)	[7]
X-21A-NO	55-408 & 55-410	(2)	[8]
	B-66 Production Total	294	

[1] RB-66A modified as testbed for General Electric CJ805-3 turbojets and CJ-805-23 turbofans.

[2] RB-66B modified as testbed for the *Bomarc* guidance system.

[3] RB-66B modified as testbed for Pratt & Whitney TF33-P-3 and P-7 turbofans.

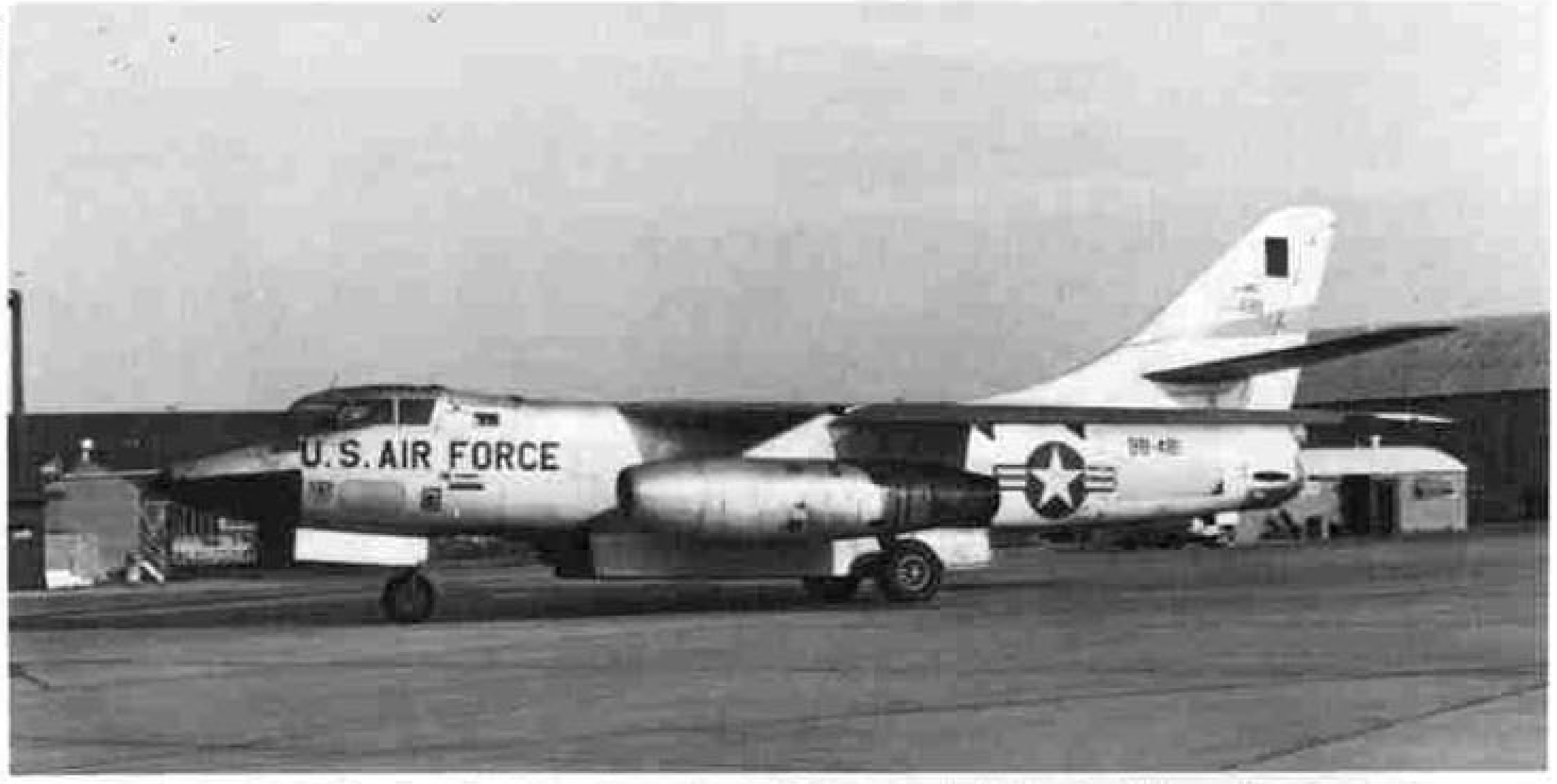
[4] RB-66Bs modified for use in the electronic jamming role.

[5] B-66Bs modified for use in the electronic jamming role.

[6] B-66B modified for parachute drop of heavy items.

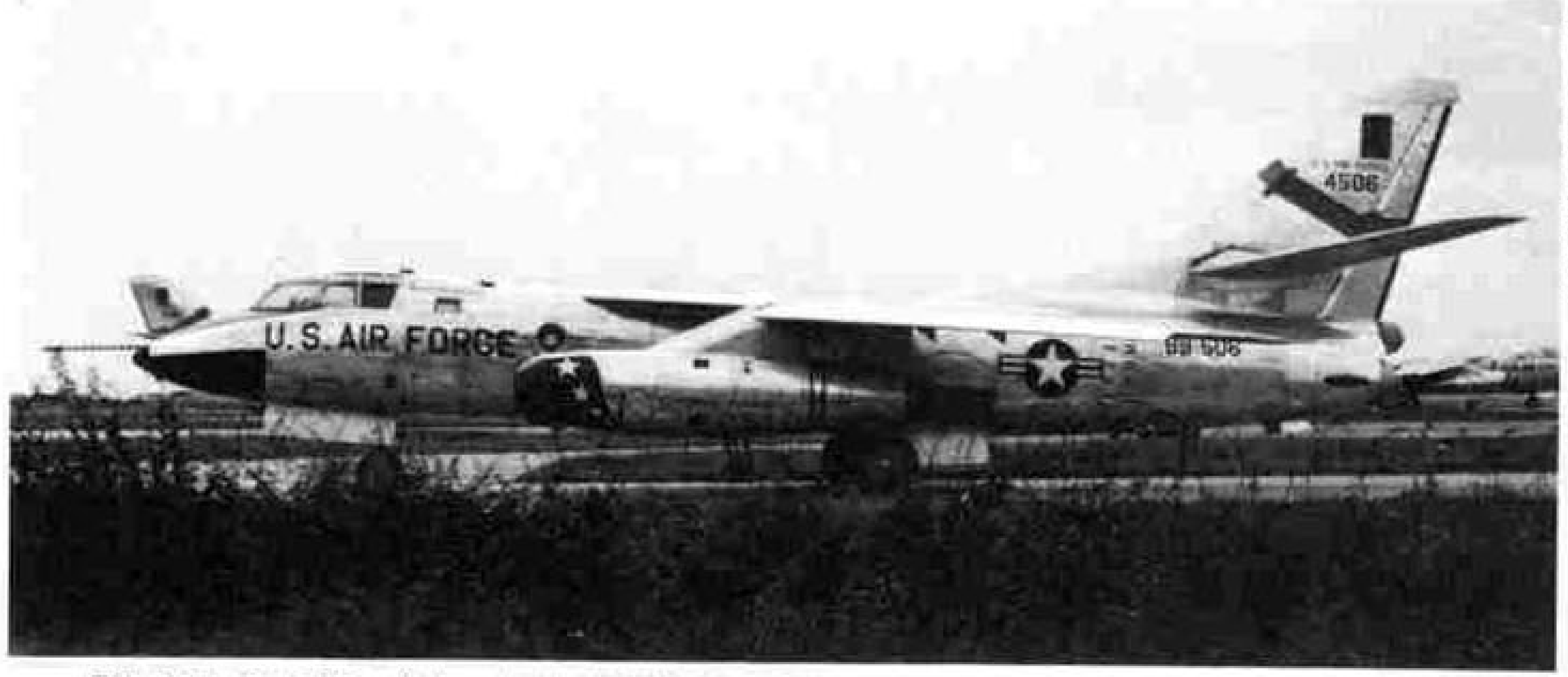
[7] WB-66D modified as a testbed for Hughes APG-63 radar.

[8] WB-66Ds modified by Northrop for laminar flow control trials.



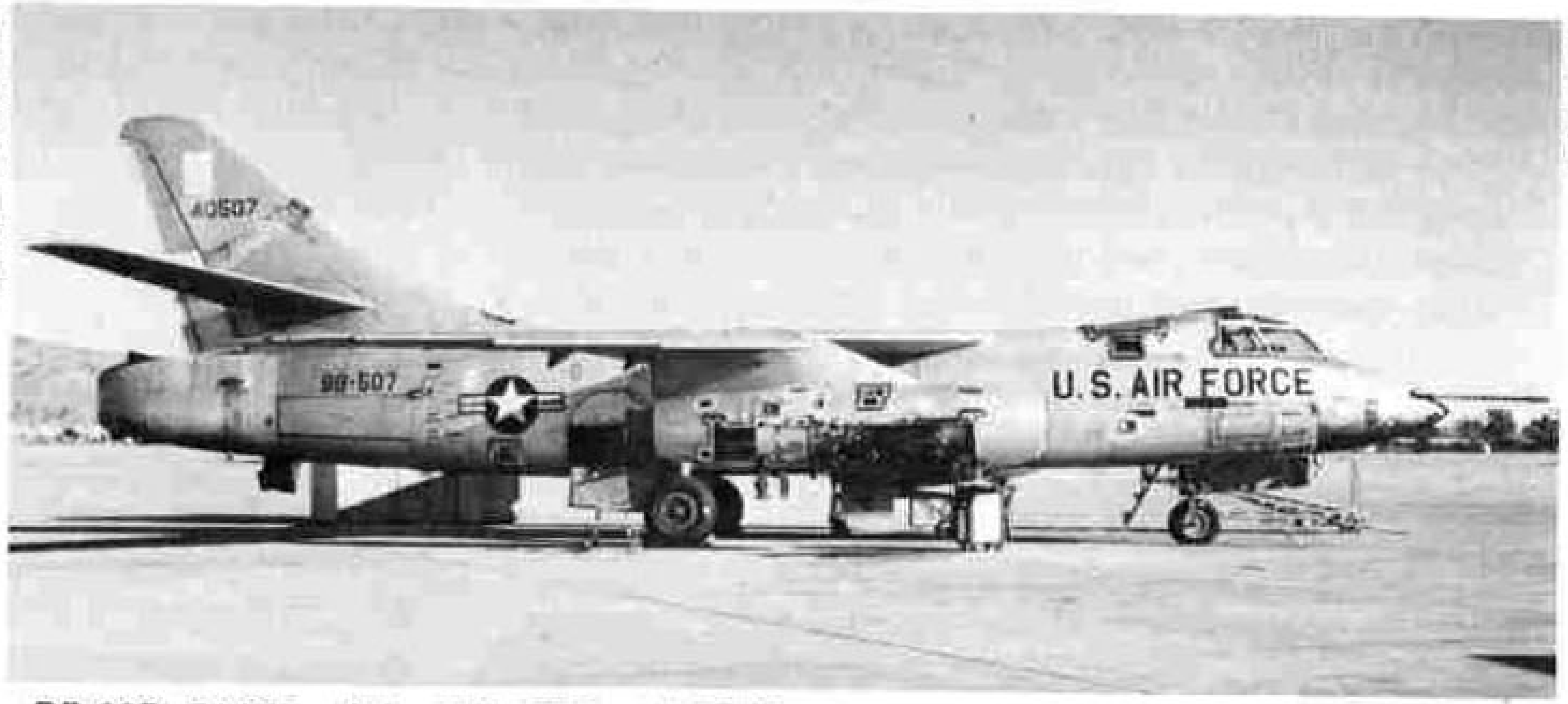
MDC

B-66B, 54-480, shortly after its arrival at Douglas' Tulsa facility and prior to its conversion to the to the one-off NB-66B standard. The bomb bay doors are open and the associated single-piece perforated spoiler is barely visible at the front of the bay.



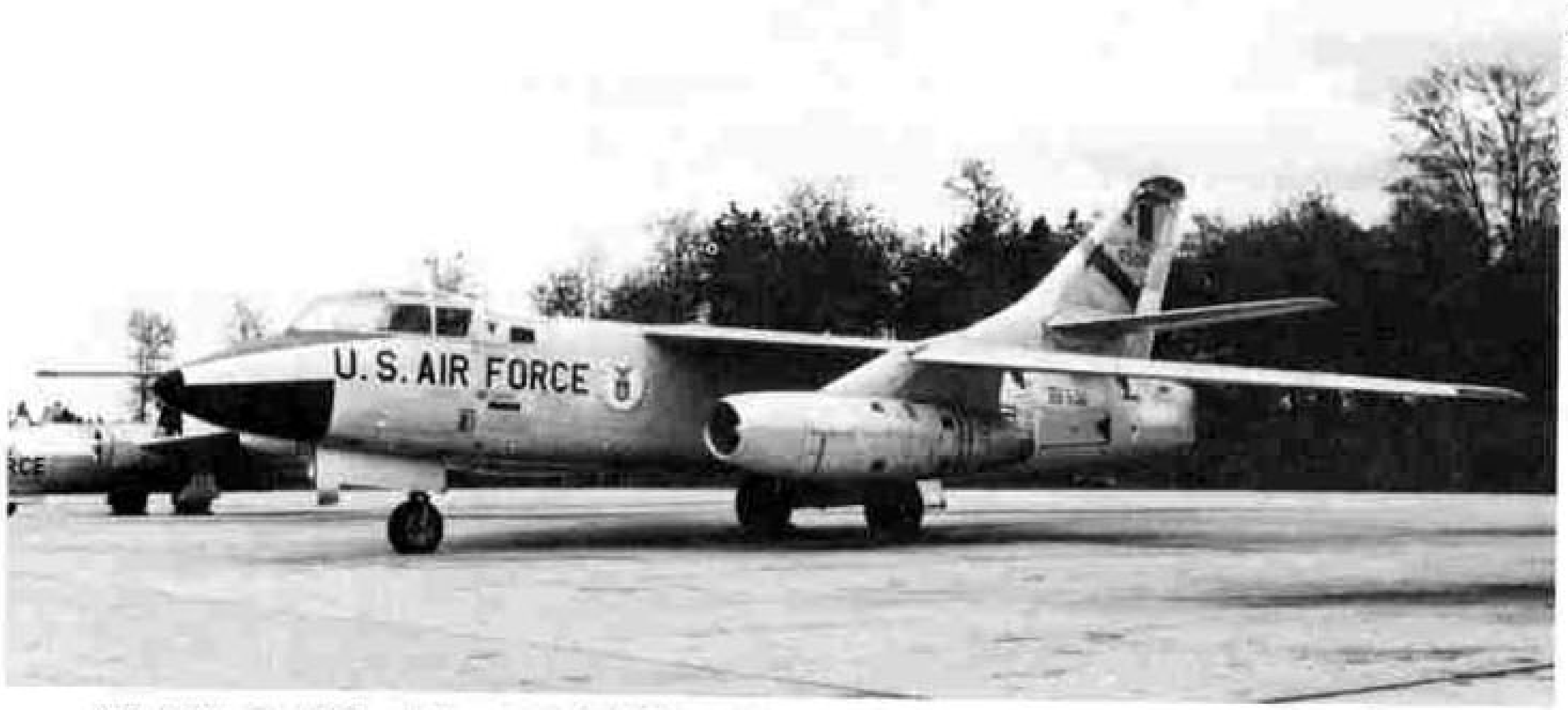
Dave Menard collection

RB-66B, 54-506, of the 19th TRS/66th TRW, during 1957. Unit patch is visible on fuselage side, above white-star-on-red-ribbon markings on engine nacelle. Barber-pole markings on refueling probe are thought also to be red and white.



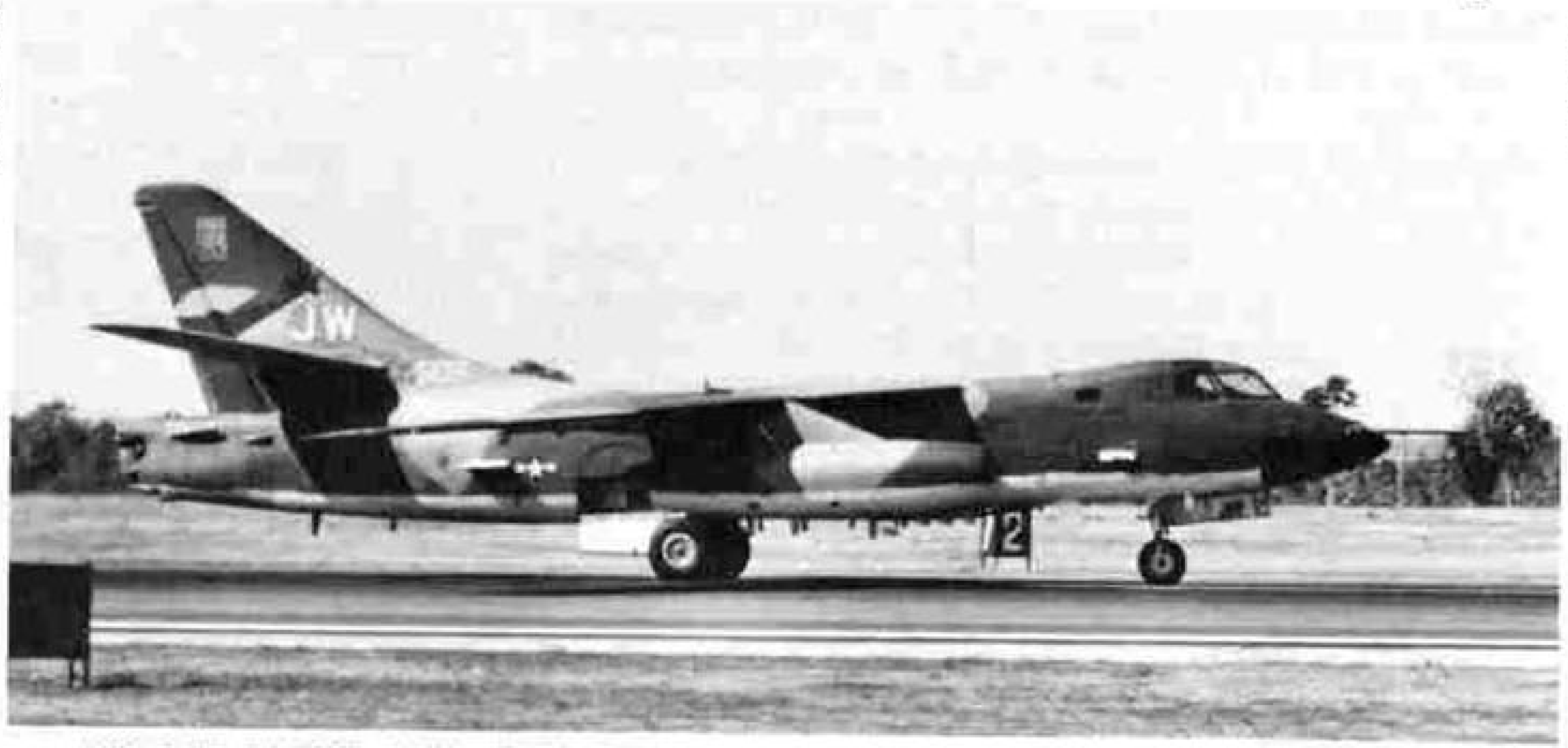
Norm Taylor

RB-66B, 54-507, of the 10th TRS at RAF Alconbury undergoing refurbishment at Davis-Monthan AFB on January 8, 1969 for return to duty. This aircraft had been retired nearly four years earlier, on June 25, 1965, and had been placed in inviolate storage.



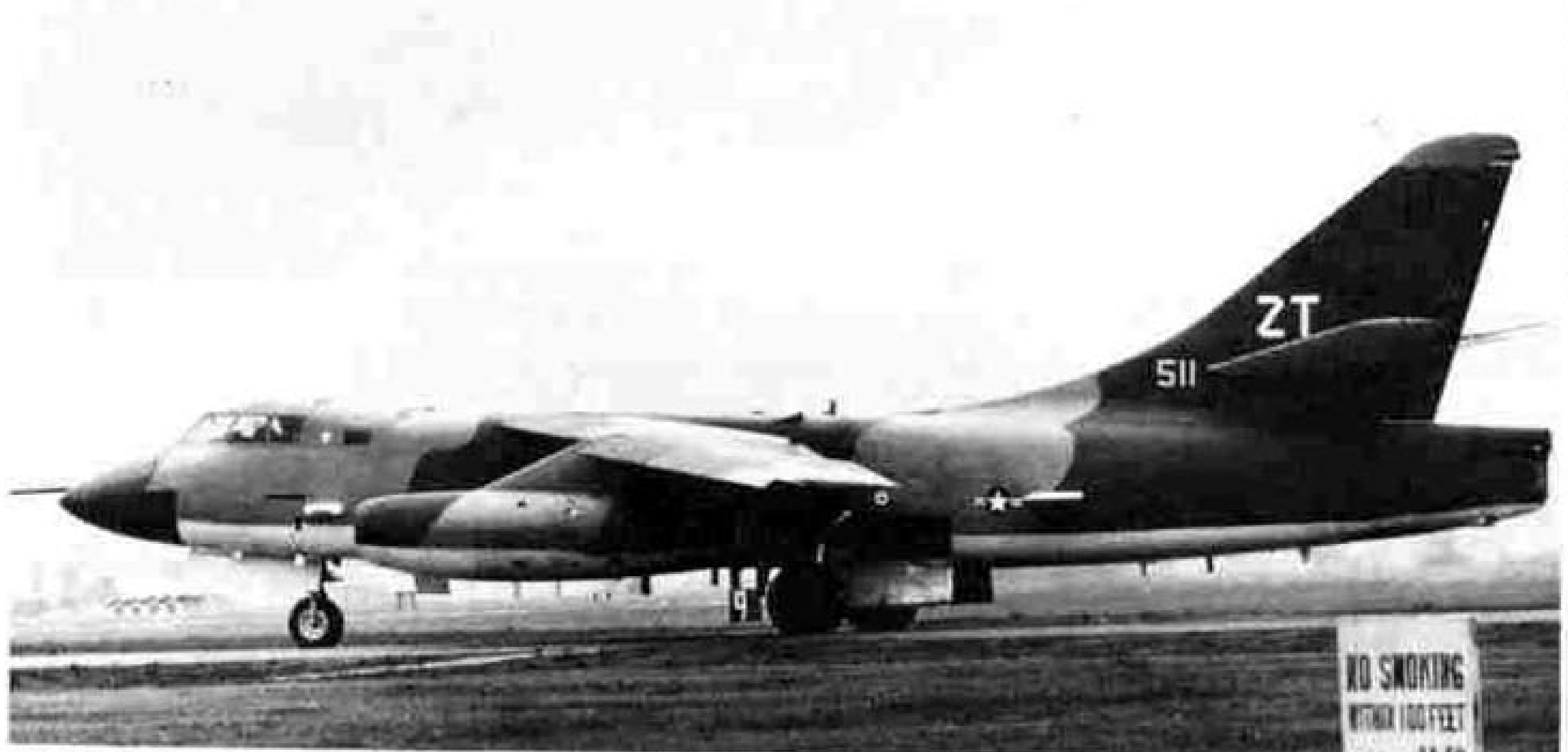
Dave Menard

RB-66B, 54-508, of the 10th TRW, at Hahn AB during May 1961. Size of special fuselage patch is noteworthy. Vertical fin tip markings are red, yellow, dark (Navy) blue, and green. Unusual markings on airbrake aft edge also are noteworthy.



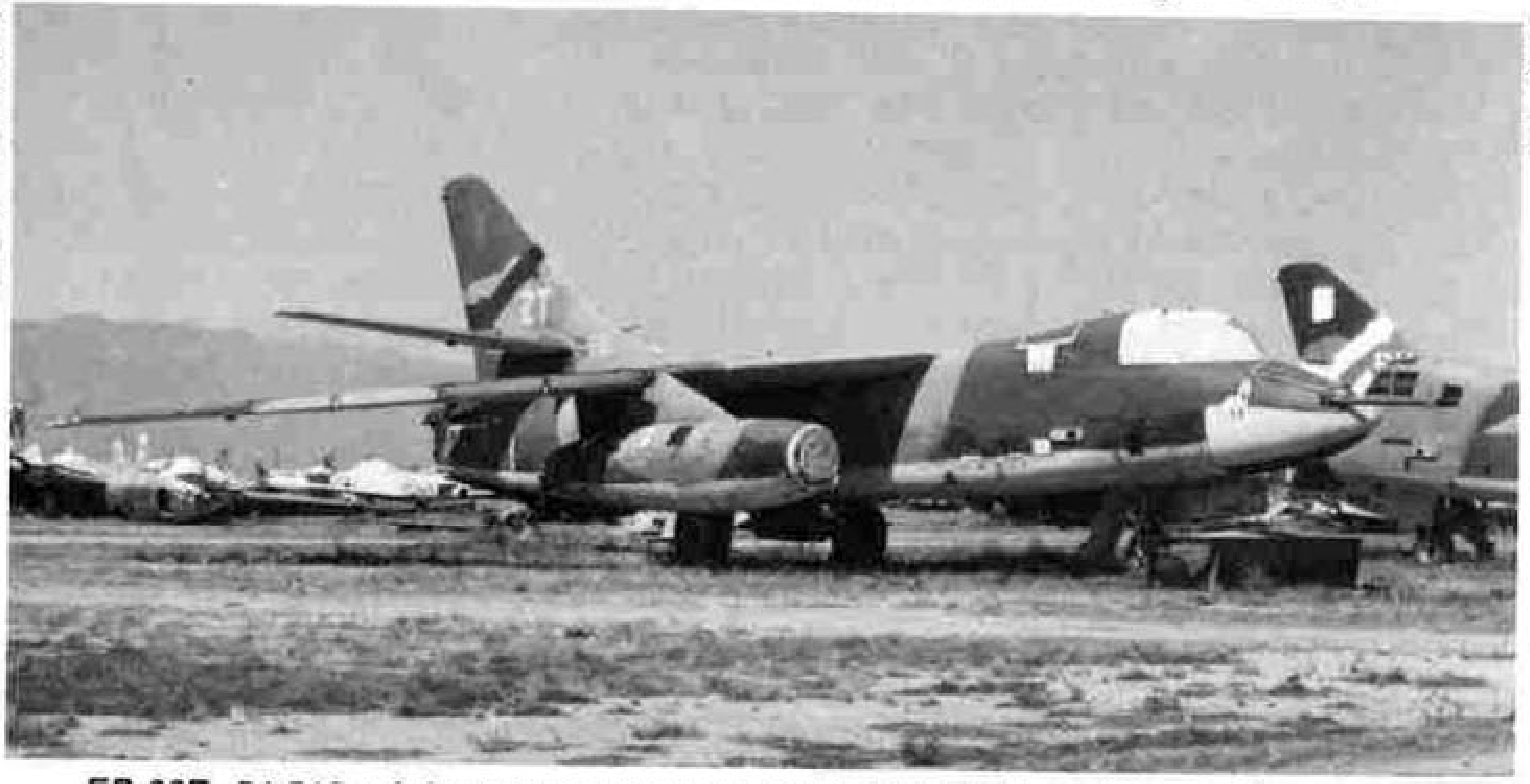
Don Logan

EB-66E, 54-509, of the 338th TFW/42nd TEWS at Korat RTAFB during the early 1970s. Exposed EW antenna farm of the EB-66E is readily apparent in this view. The EB-66C had its antennas faired in a series of three fiberglass canoes.



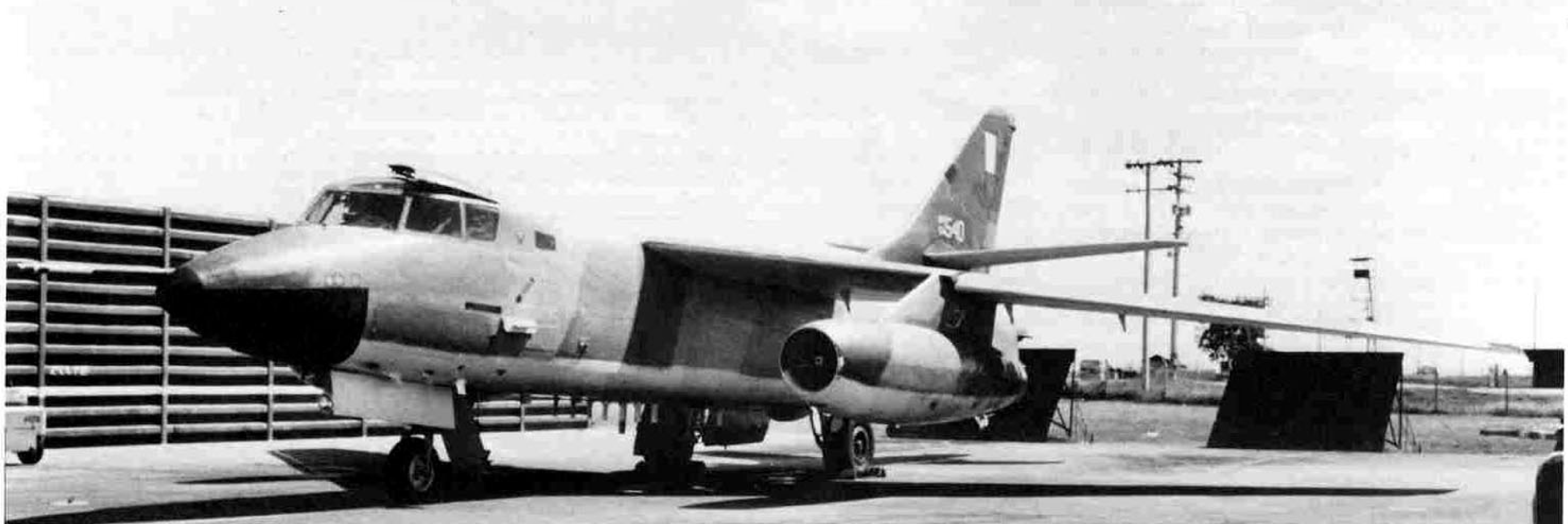
Aerofax, Inc. collection

EB-66E, 54-511, of the 18th TFW/19th TEWS at Kadena AFB. Both ventral and dorsal blade antennas for the aircraft's powerful EW system are readily visible. Additional antennas were mounted on the fuselage sides and in the empennage fairing.



Jerry Geer

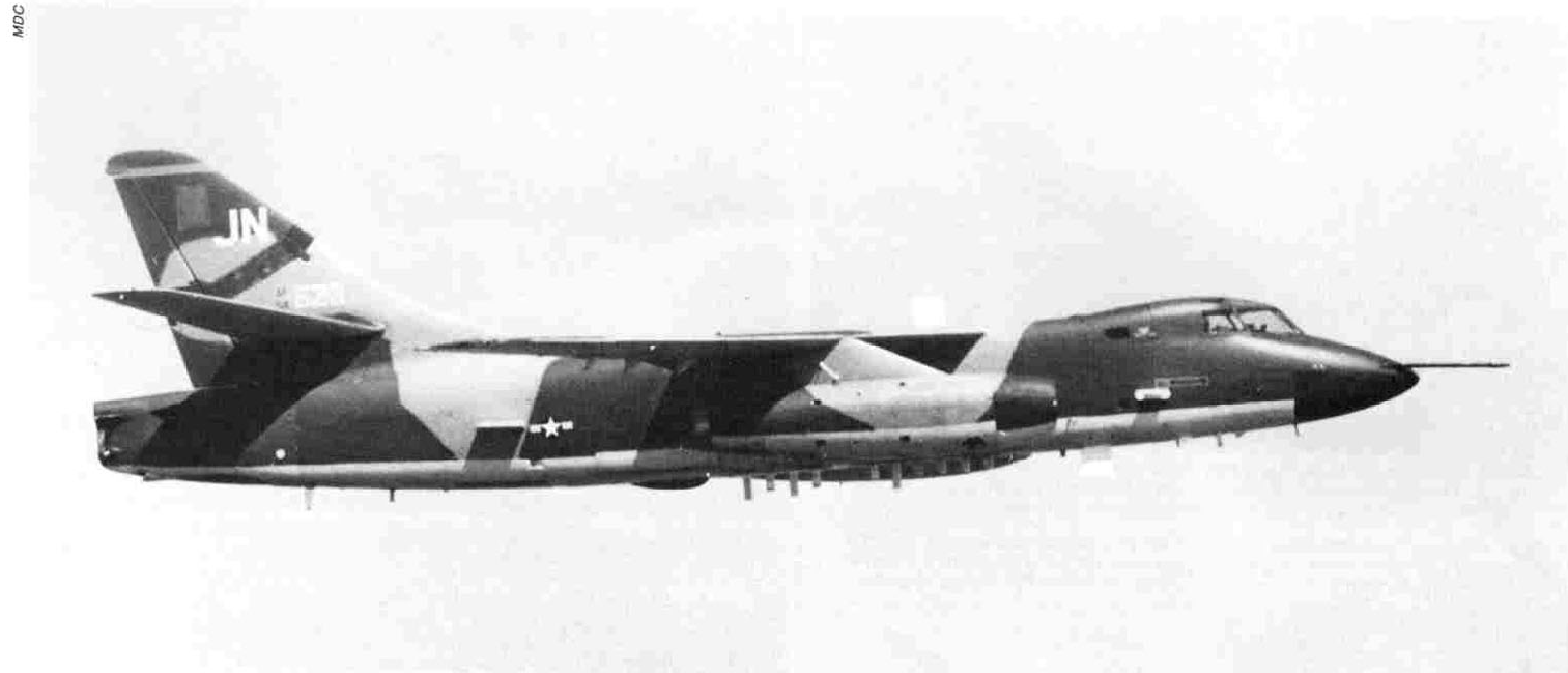
EB-66E, 54-516, of the 19th TEWS/18th TFW at the Military Aircraft Storage and Disposition Center during June 1973. The aircraft had been spraylatted in strategic places for preservation purposes, though it was never again flown.



Don Logan

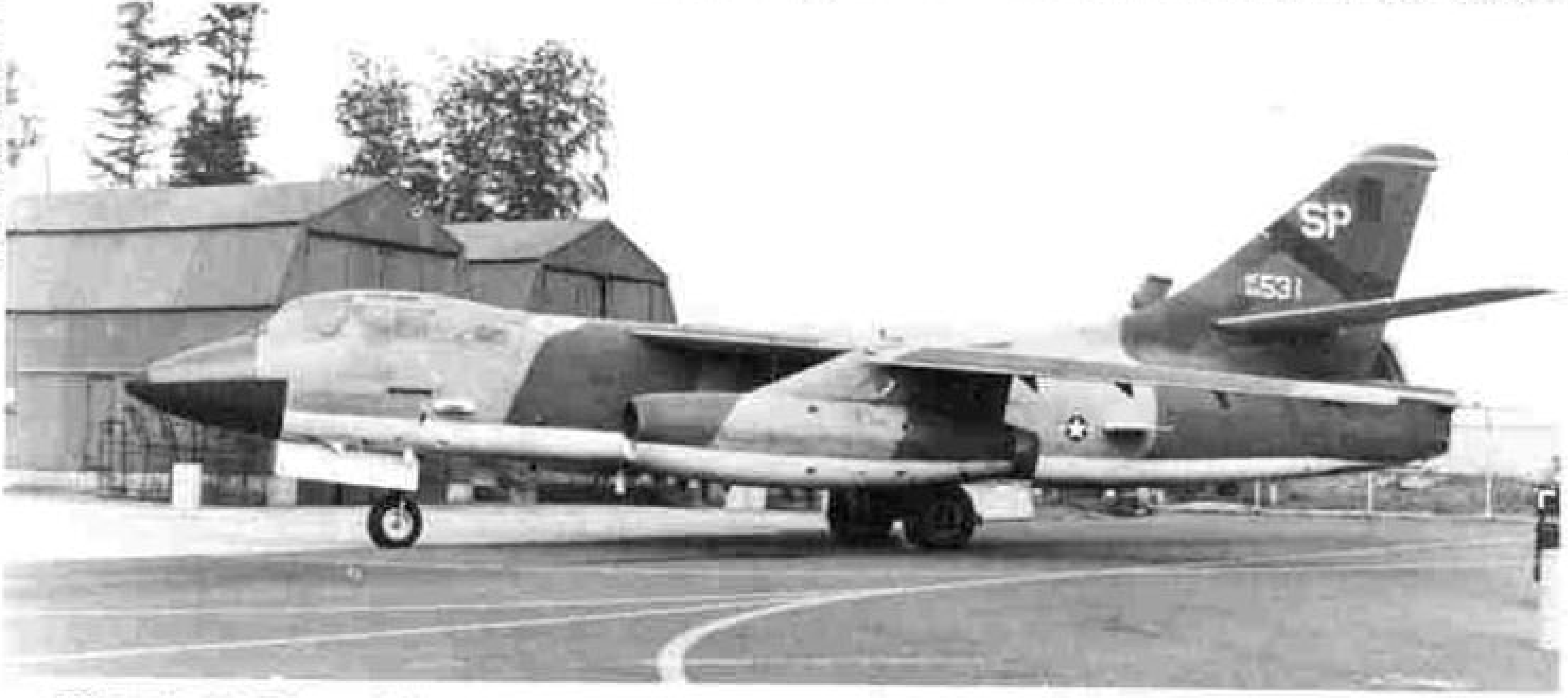
EB-66E, 54-520, in its revetment at Korat RTAFB. Details of the various EW antennas and their associated systems are covered in the text and the "In Detail" section of this book. Most of these units were dedicated active systems capable of generating high electro-magnetic energy levels at various frequencies and wavelengths. Effectiveness, however, was directly proportional to the aircraft's distance from its "target"—as the closer it was to the emanating source, the more effective it became.

MDC



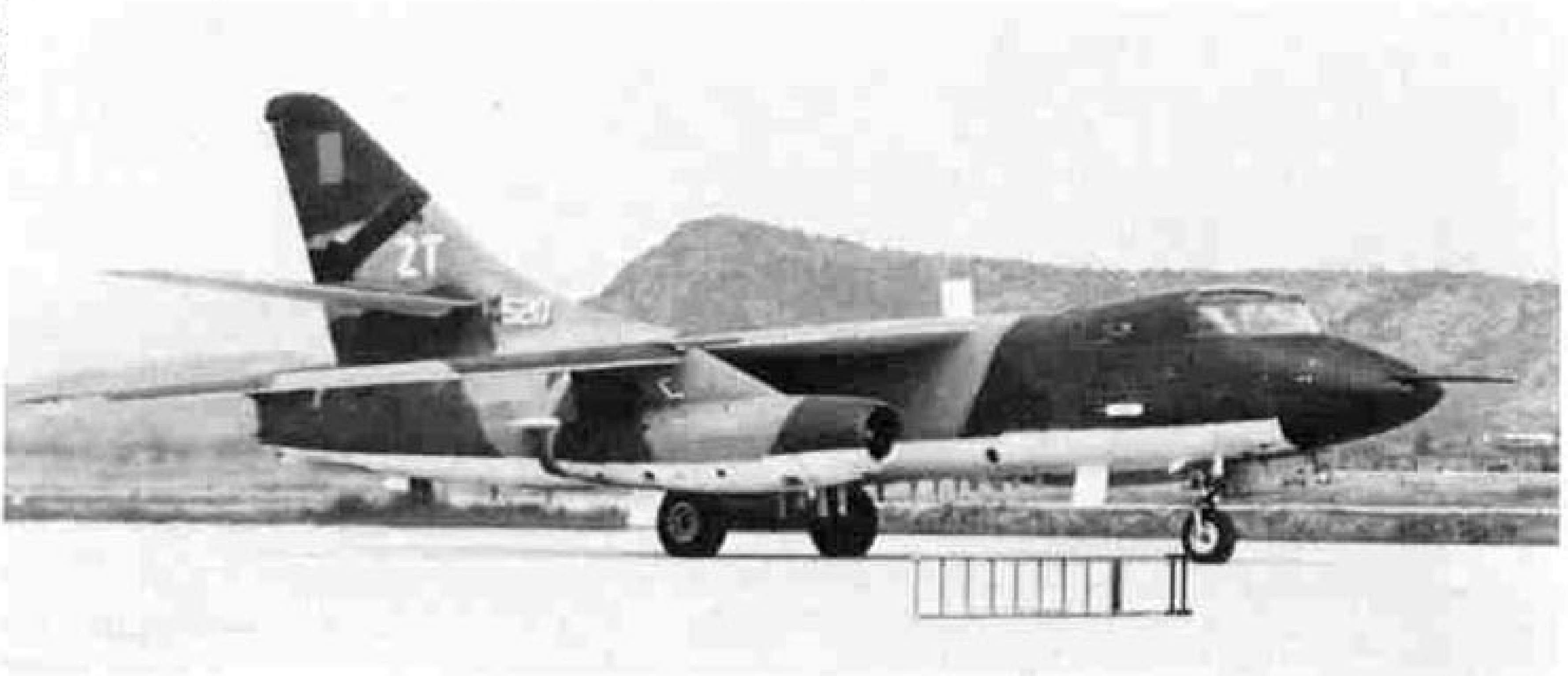
EB-66E, 54-523, with fresh Vietnam-era camouflage, departing the Tulsa airport where Douglas' B-66 modification program was conducted during the mid-and late-1960s. This aircraft had the full EW antenna complement, including the late, and very large side-fuselage, dorsal, and ventral blade antennas peculiar to the EB-66E. Excluding the aircraft's nose radar unit, over thirty antennas and associated fairings are visible in this view.

Jerry Geer collection



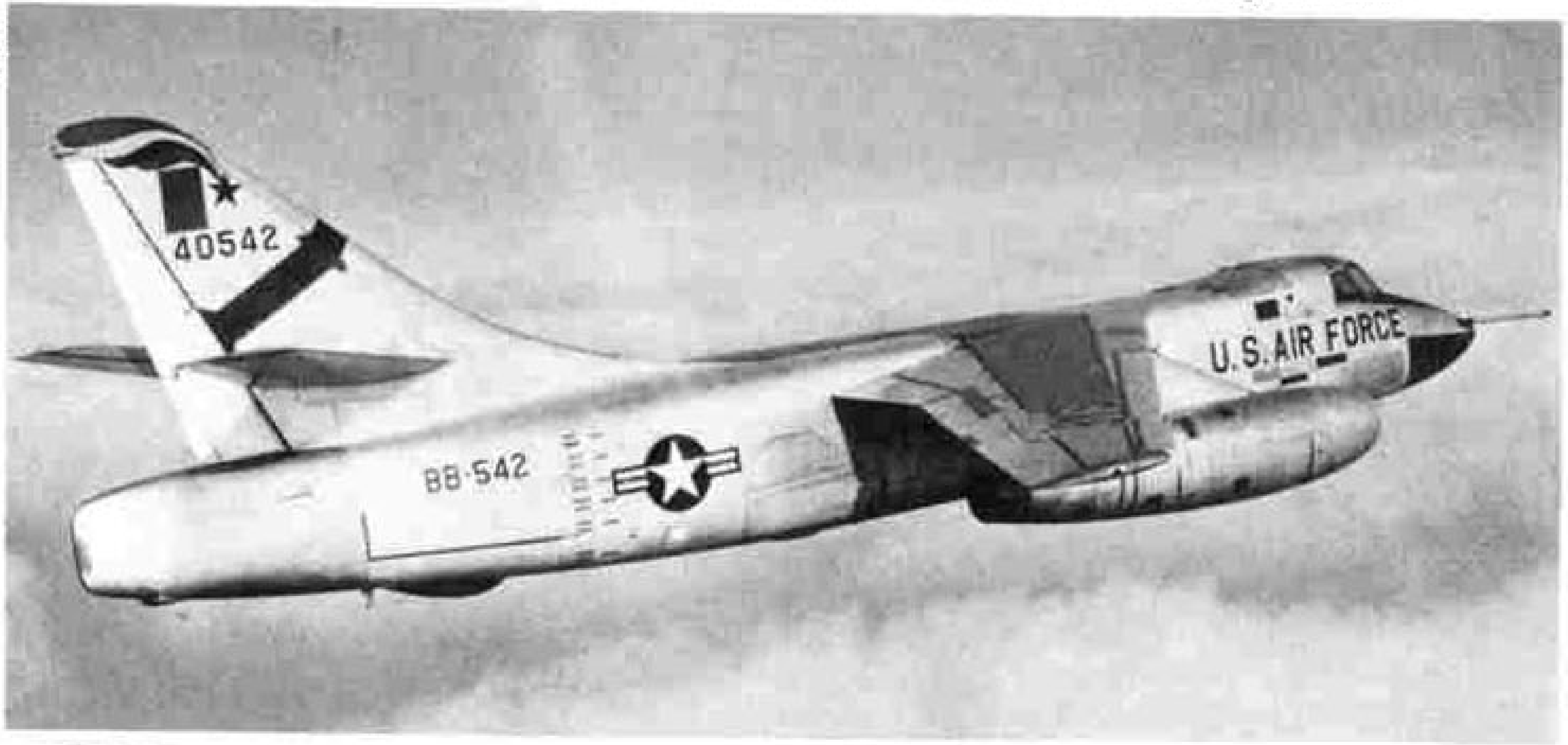
EB-66E, 54-531, of the 39th TEWS/52nd TFW, at Bitburg. This aircraft lacks the large EW dorsal blade antenna typical of late-configuration E/E-series aircraft. It started life as an RB-66B and later was modified to the EB-66E configuration.

Don Logan



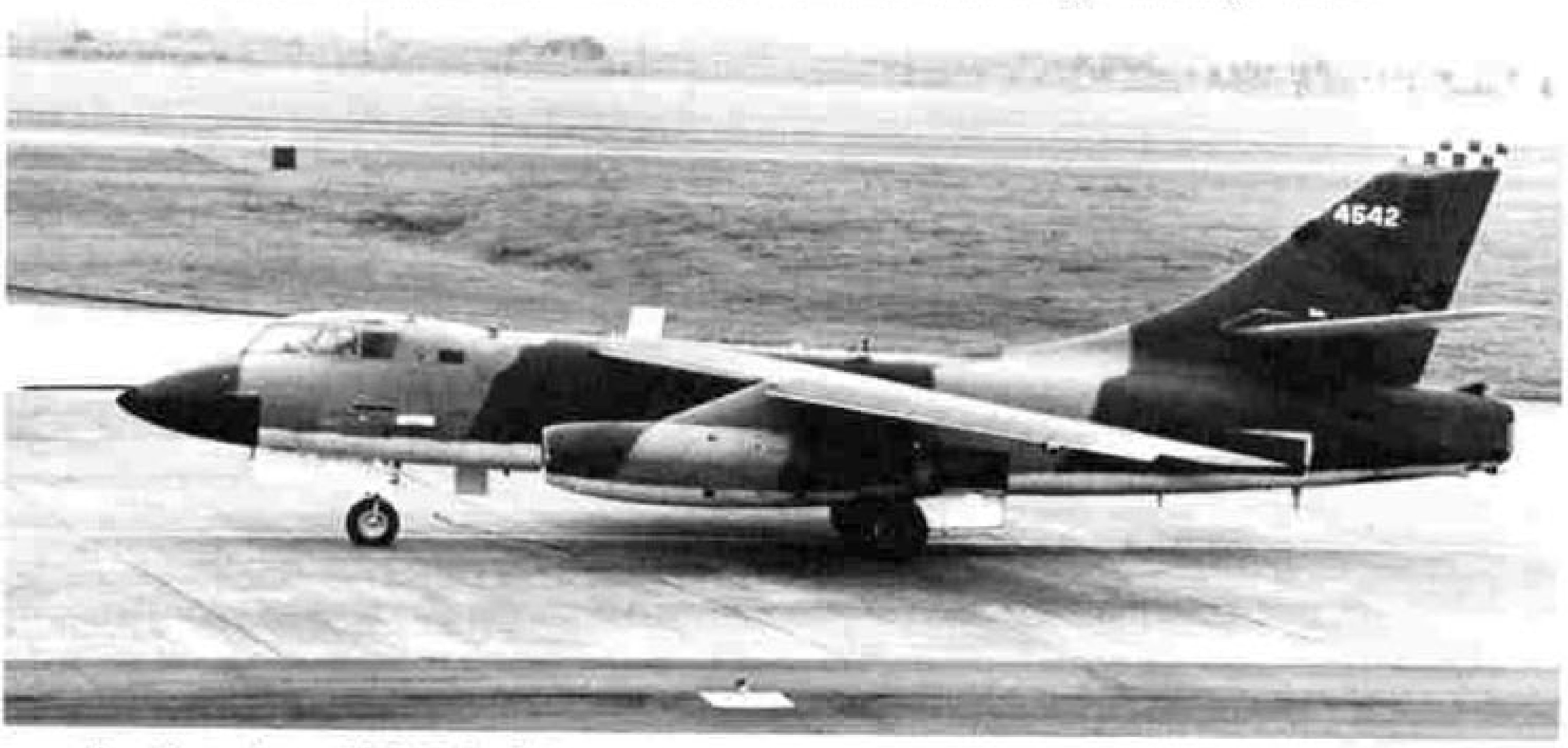
EB-66E, 54-520, was one of thirty RB-66Bs brought up to E/E standards by Douglas' Tulsa facility. It was assigned to the 19th TEWS/18th TFW at Kadena and is seen taxiing in following a combat mission during the early 1960s.

USAF



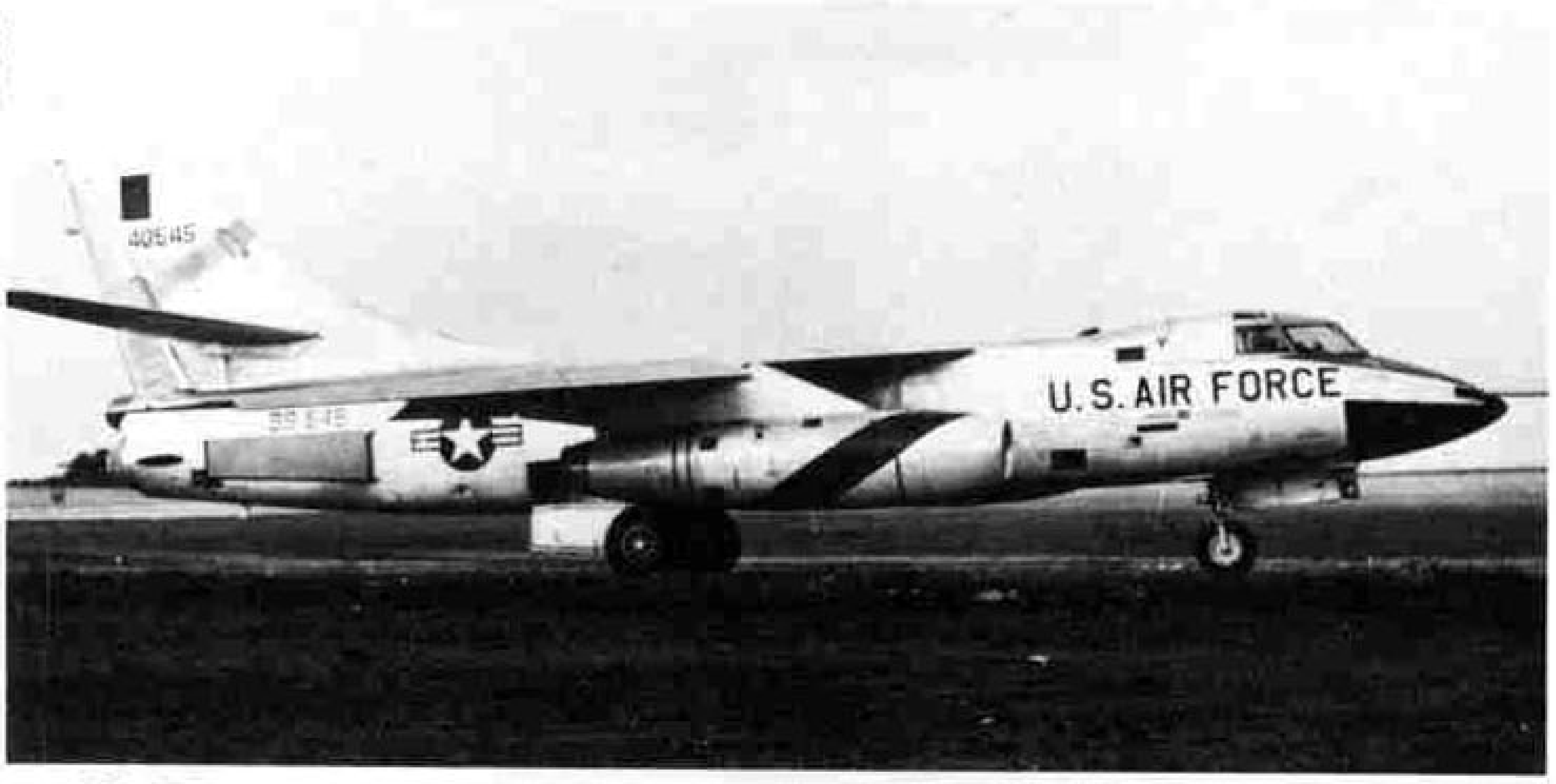
RB-66B, 54-542, of the 10th TRW after replacement of the tail turret and radar by the EW-optimized faired tail cone. Later brought up to EB-66E standard, it last served with the 19th TEWS during 1970 and was removed from service during 1973.

T. Matsuzaki



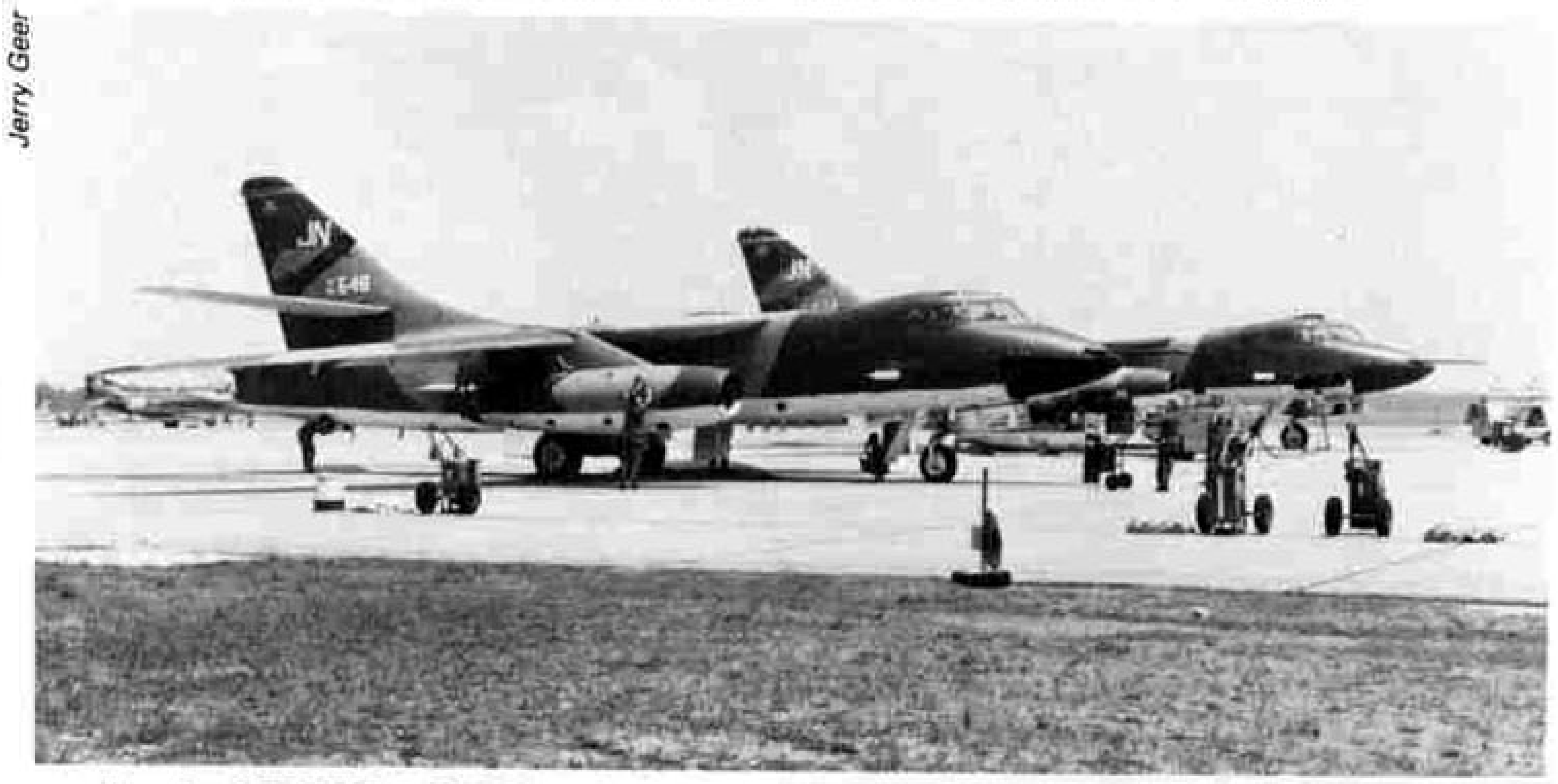
Another view of 54-542, following upgrade to the EB-66E standard. The aircraft is seen at Yokota AB during April 1968 when the 19th TEWS was deployed to Japan to boost U.S. forces after the seizure of the USS "Pueblo".

René Francillon collection

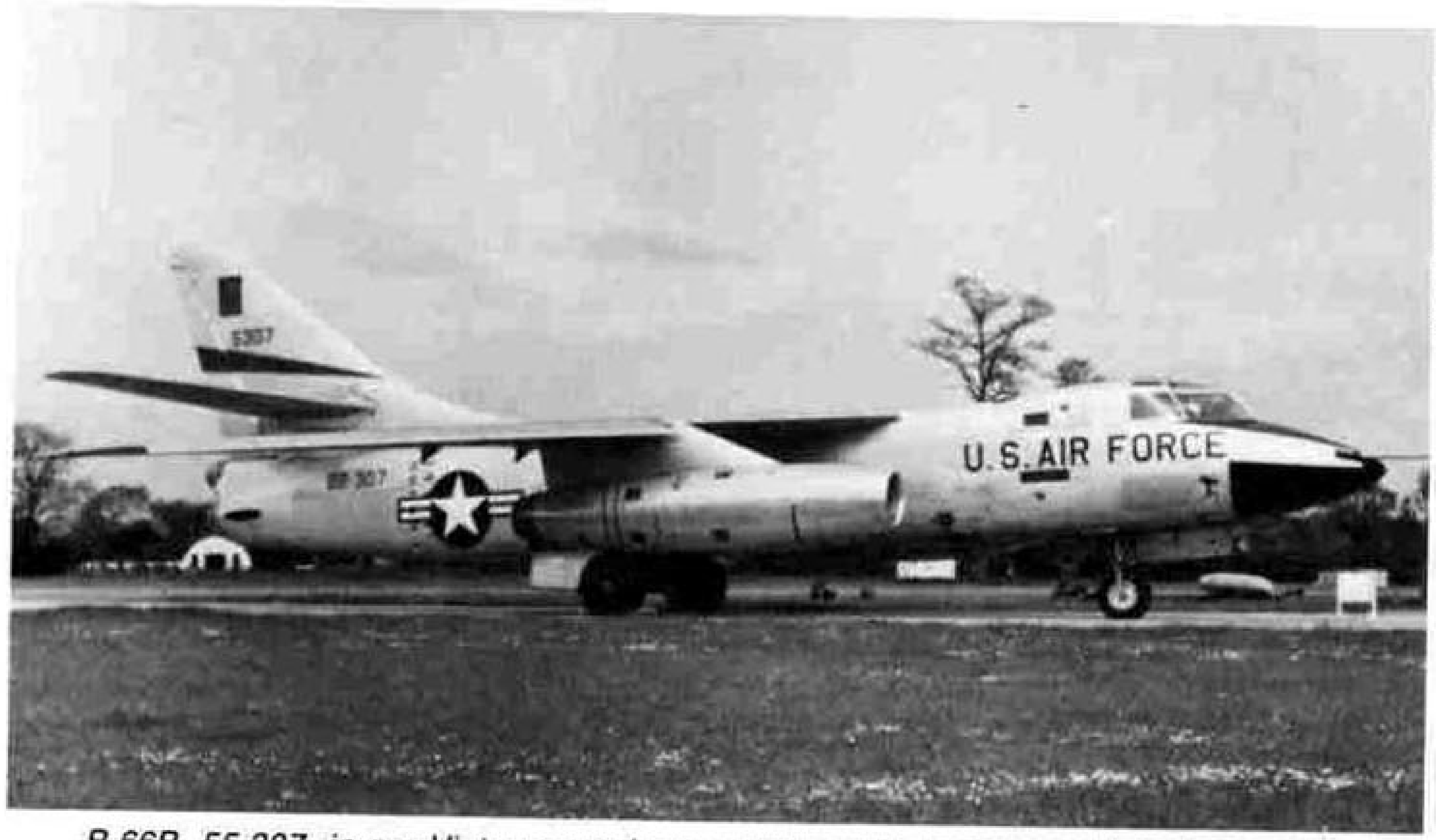


RB-66B, 54-545, of the 10th TRW. The wide color band around the engine nacelle appears to be very dark green. Pre-Vietnam-era bare metal finish is typical. Aircraft apparently has just landed, as pilot remains in cockpit and airbrakes are extended.

Jerry Geer

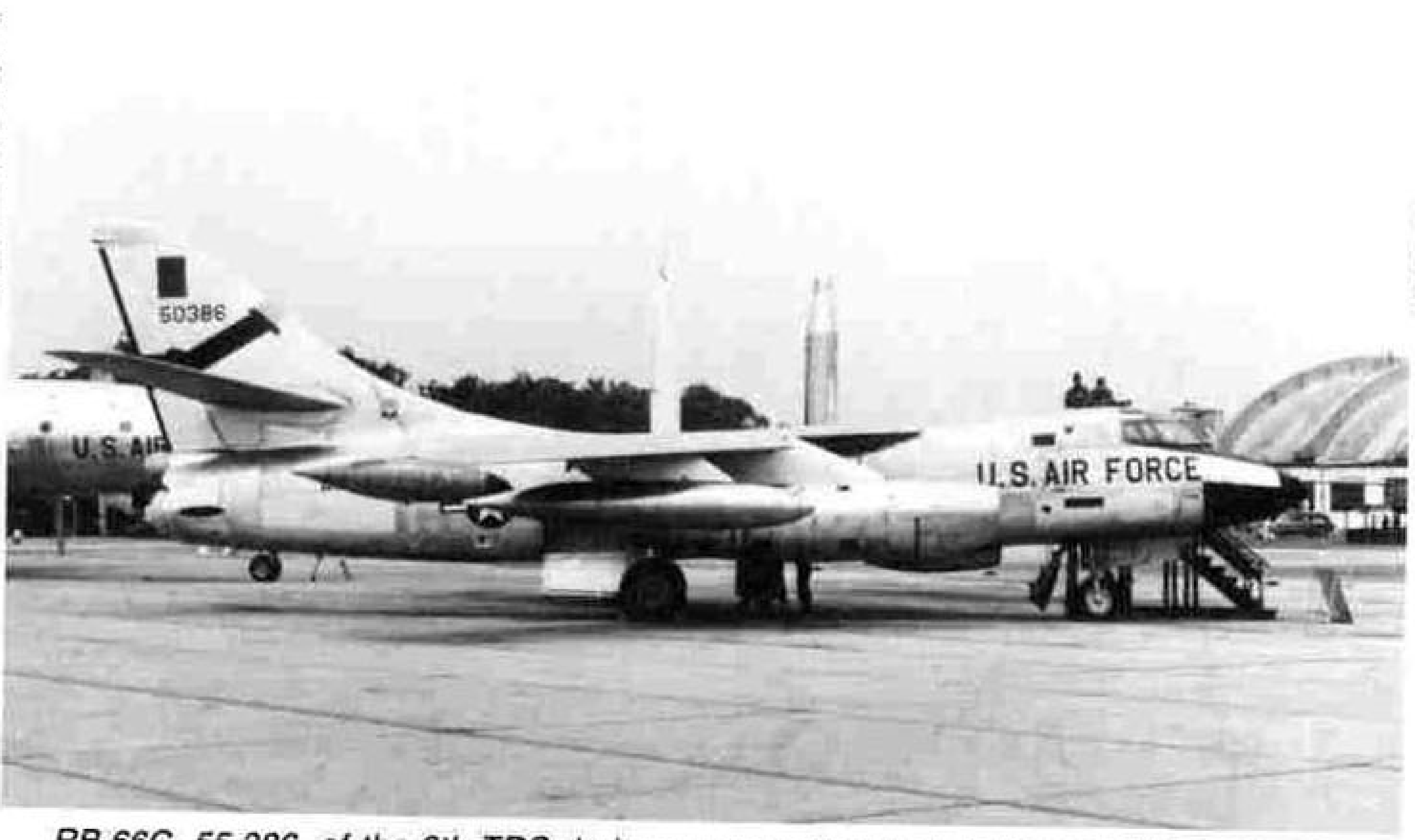


A pair of EB-66Es, 54-546 and 54-534, of the 39th TEWS/363rd TRW at Shaw AFB during June 1971. The aircraft nearest the camera, 54-546, is about to depart on a training mission. Both appear to have been recently repainted.



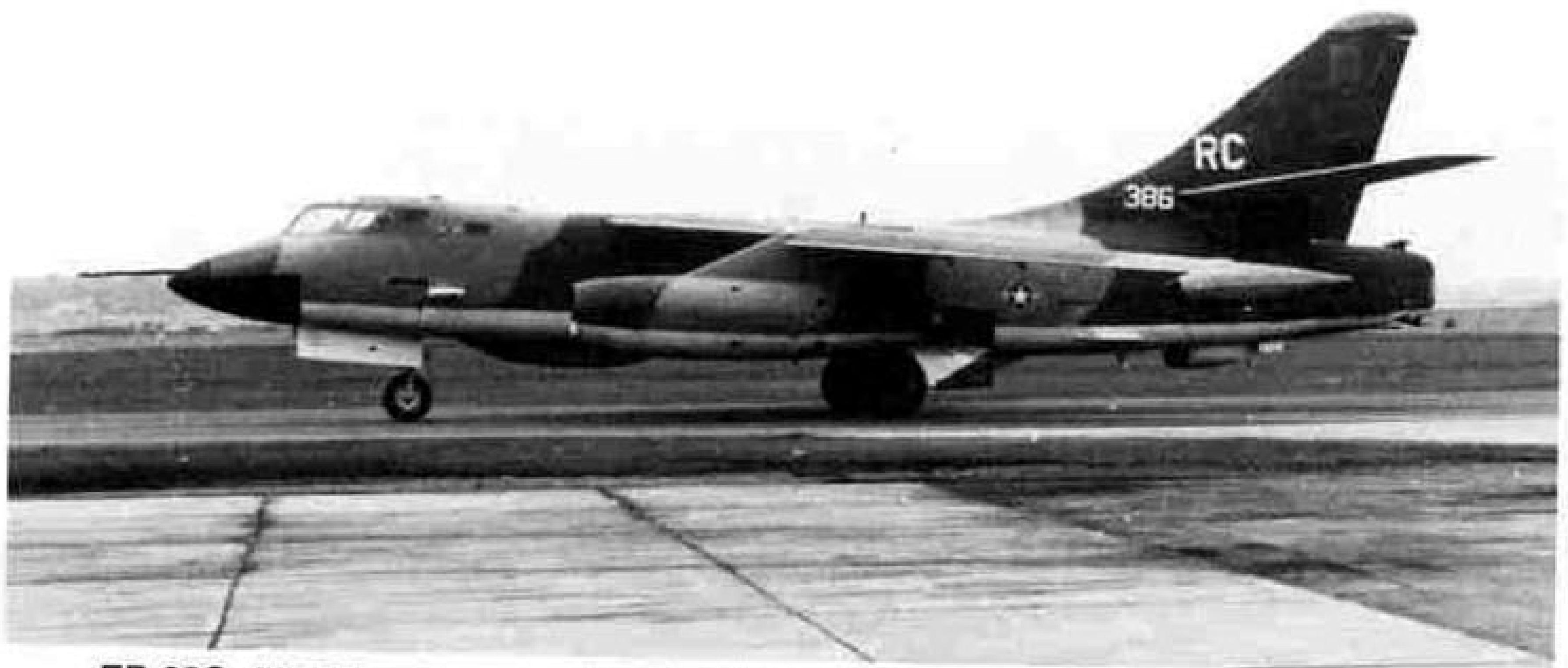
René Francillon collection

B-66B, 55-307, in pre-Vietnam-era bare metal markings of the 84th BS/47th BW, USAFE. The squadron patch is visible on the nose of the aircraft, just to the rear of the nose radome. The thin triangular vertical fin mark appears to be red.



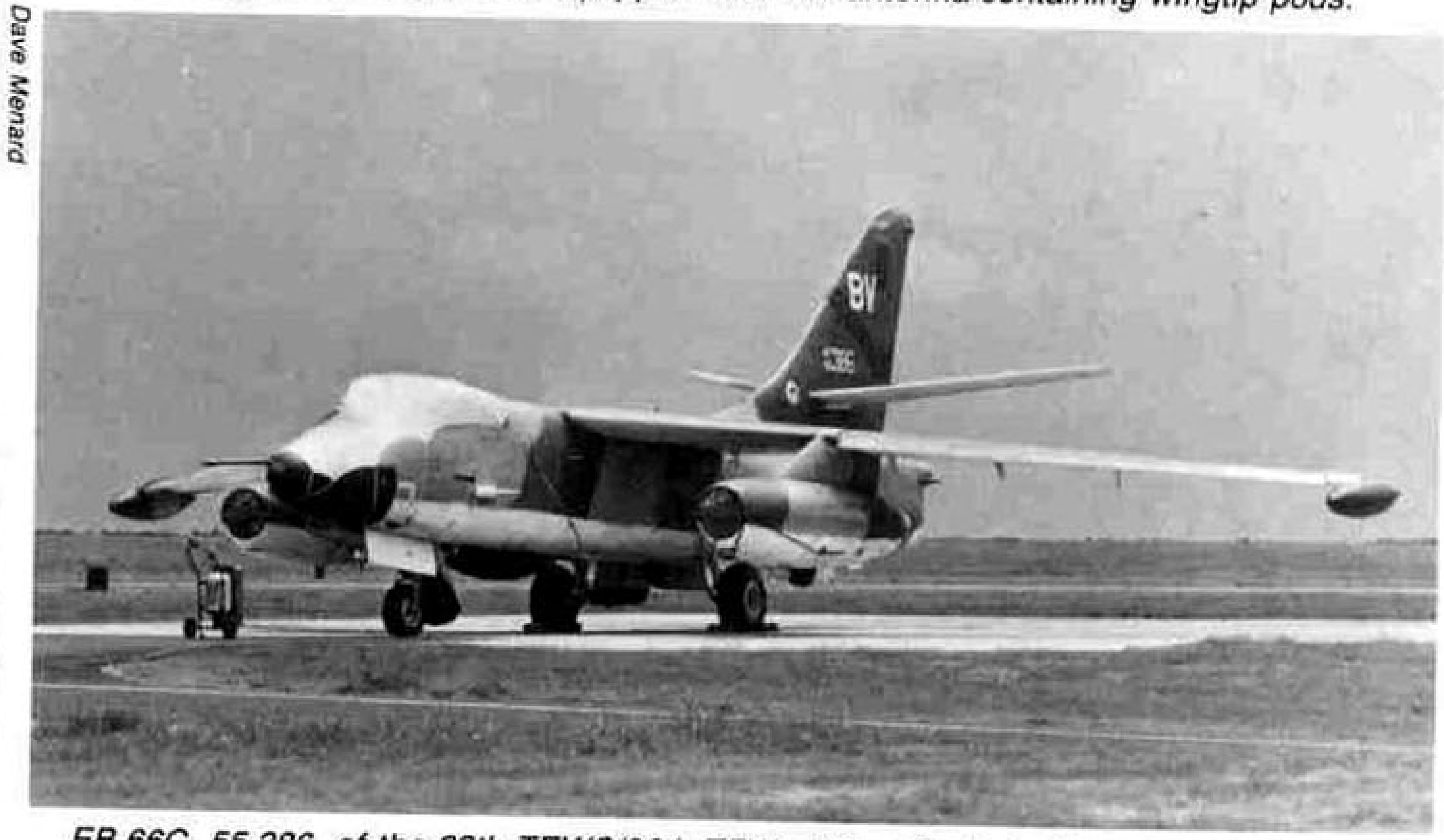
Nick Williams collection

RB-66C, 55-386, of the 9th TRS during an open house at Andrews AFB on May 11, 1962. The aircraft has only one ventral radome (visible under the forward end of the engine nacelle), but is equipped with EW antenna-containing wingtip pods.



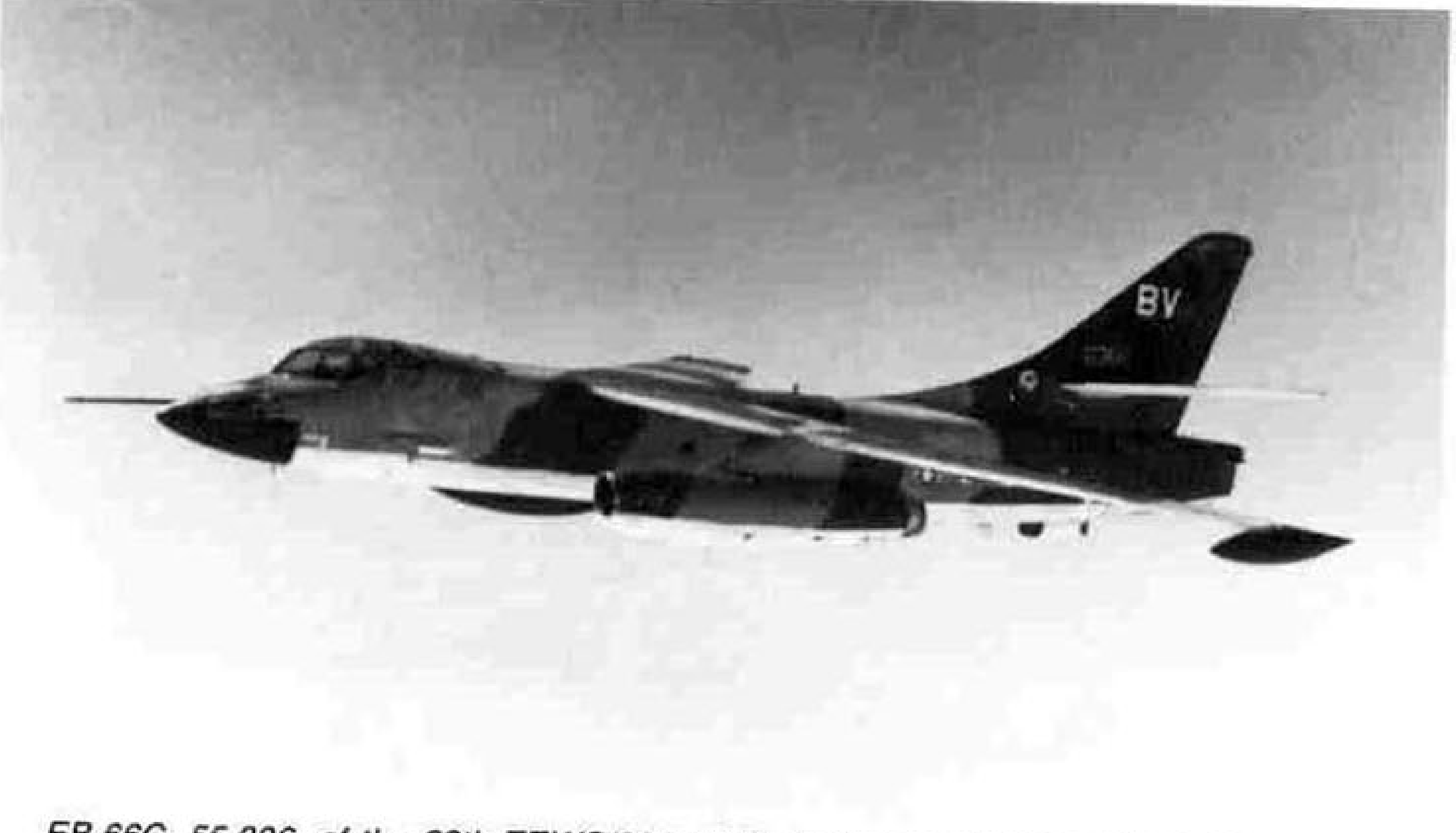
Dave Menard

EB-66C, 55-386, of the 41st TEWS/355 TFW at RAF Alconbury during 1969. It is equipped with the standard three ventral EW antenna canoes, the wingtip EW antenna pods, and the extended tail fairing. Camouflage pattern is typical Vietnam-era.



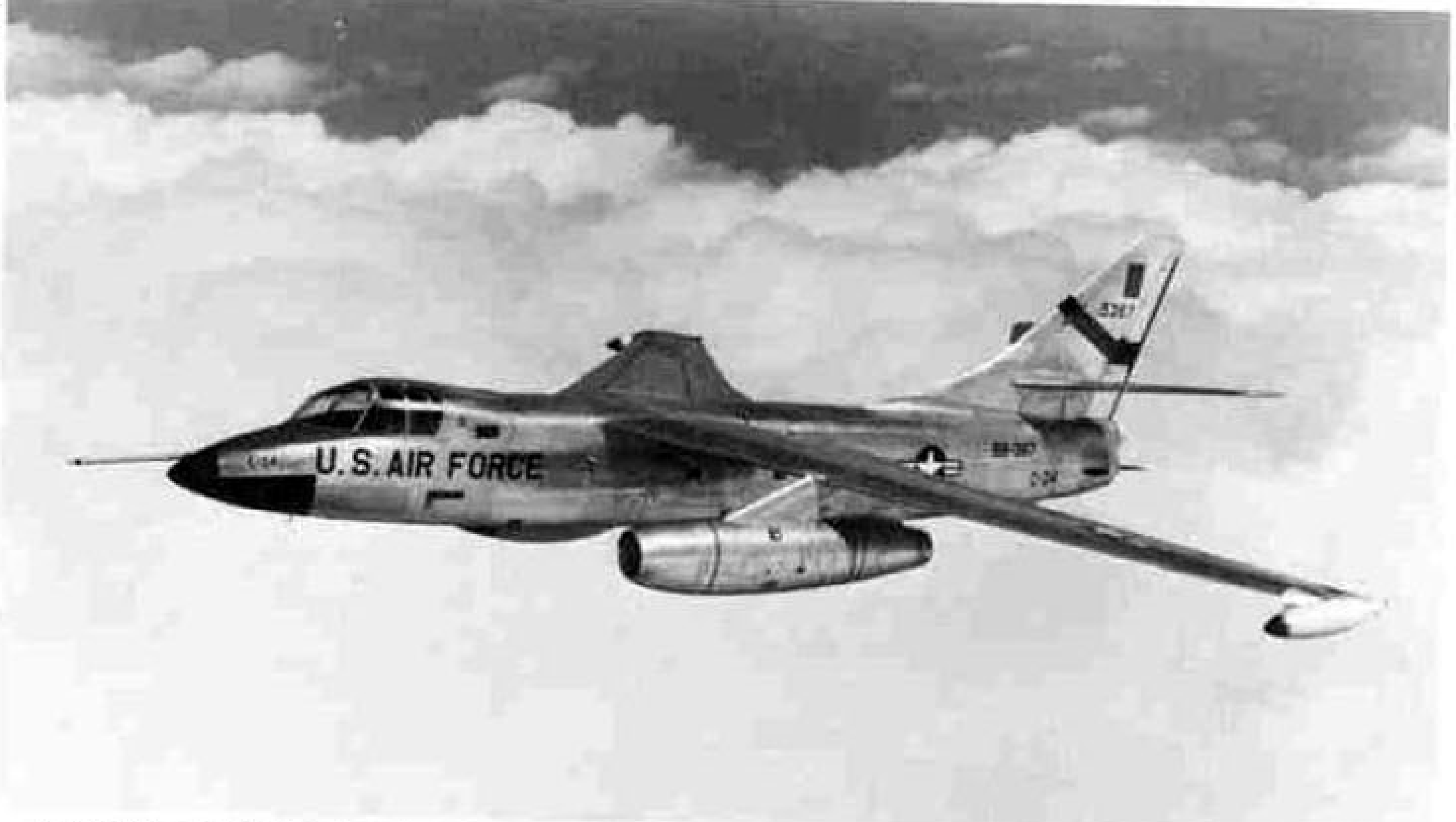
Jerry Geer collection

EB-66C, 55-386, of the 39th TEWS/36th TFW at EggeBock during August 1971. The protective tarpaulin over the nose was standard for the "Destroyer". Its reflective coating helped alleviate heat build-up in the cockpit due to greenhouse effect.



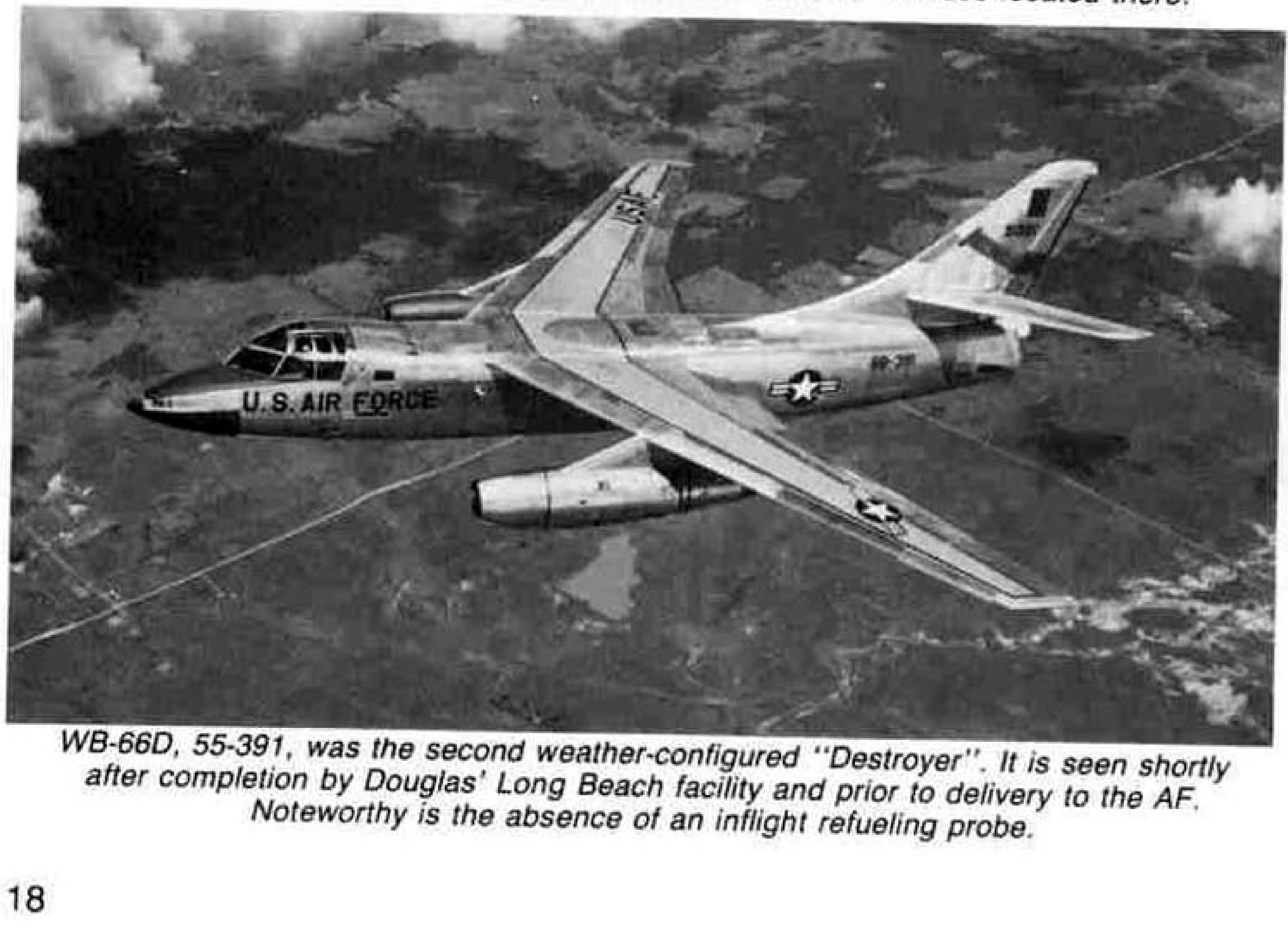
USAF

EB-66C, 55-386, of the 39th TEWS/36th TFW during a sortie over West Germany on July 5, 1972. The aircraft was based out of Spangdahlem AB and was part of the USAFE operations contributing to the NATO defensive forces located there.



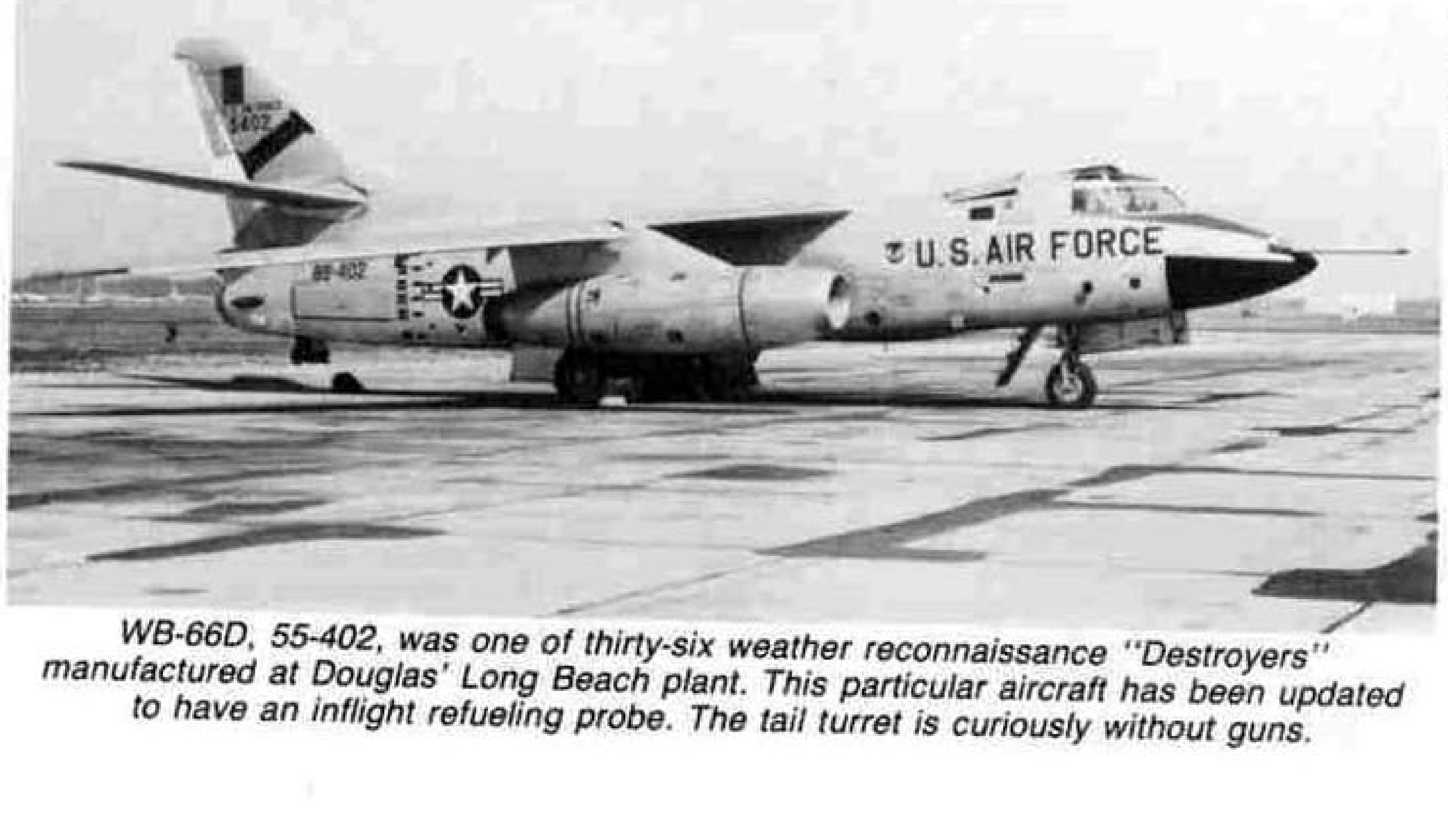
MDC

RB-66C, 55-387, shortly after completion by Douglas' Long Beach facility. "C-34" on fuselage nose and empennage sections indicates this to be the 34th RB-66C built. It was, in fact, in the second batch of RB-66Cs and was part of a block of six aircraft.



MDC

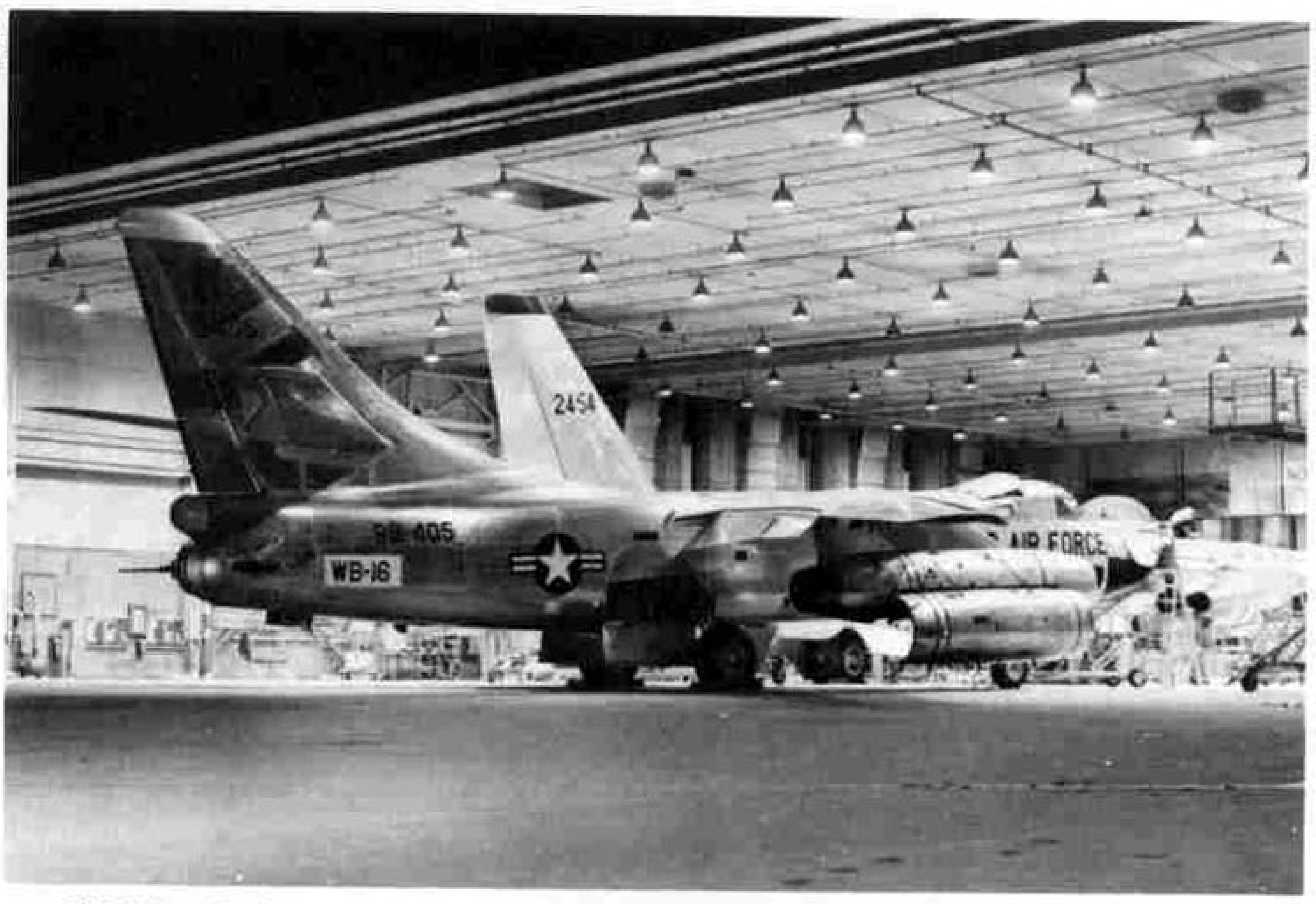
WB-66D, 55-391, was the second weather-configured "Destroyer". It is seen shortly after completion by Douglas' Long Beach facility and prior to delivery to the AF. Noteworthy is the absence of an inflight refueling probe.



Peter Bowers via Nick Williams

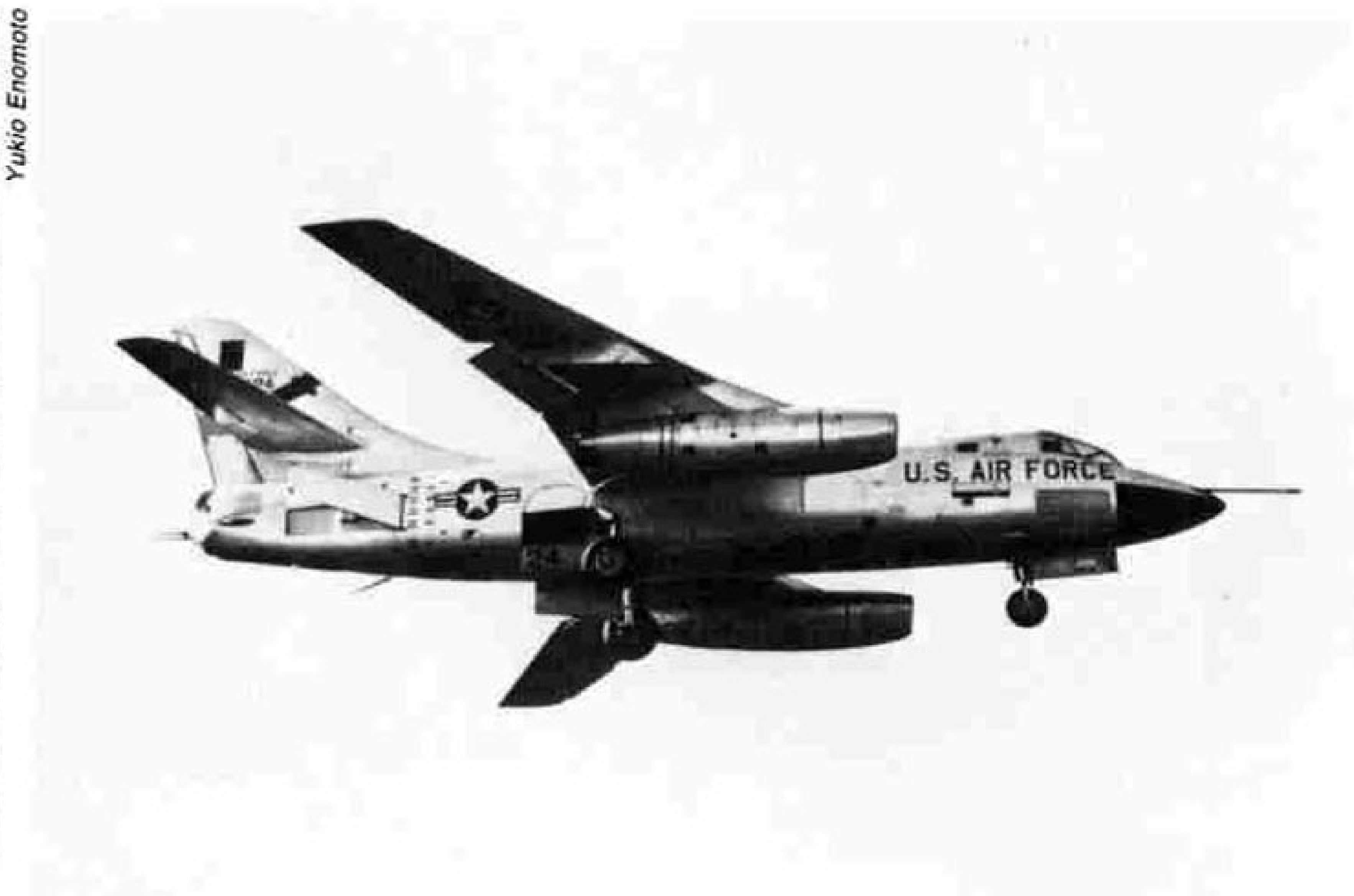
WB-66D, 55-402, was one of thirty-six weather reconnaissance "Destroyers" manufactured at Douglas' Long Beach plant. This particular aircraft has been updated to have an inflight refueling probe. The tail turret is curiously without guns.

MDC



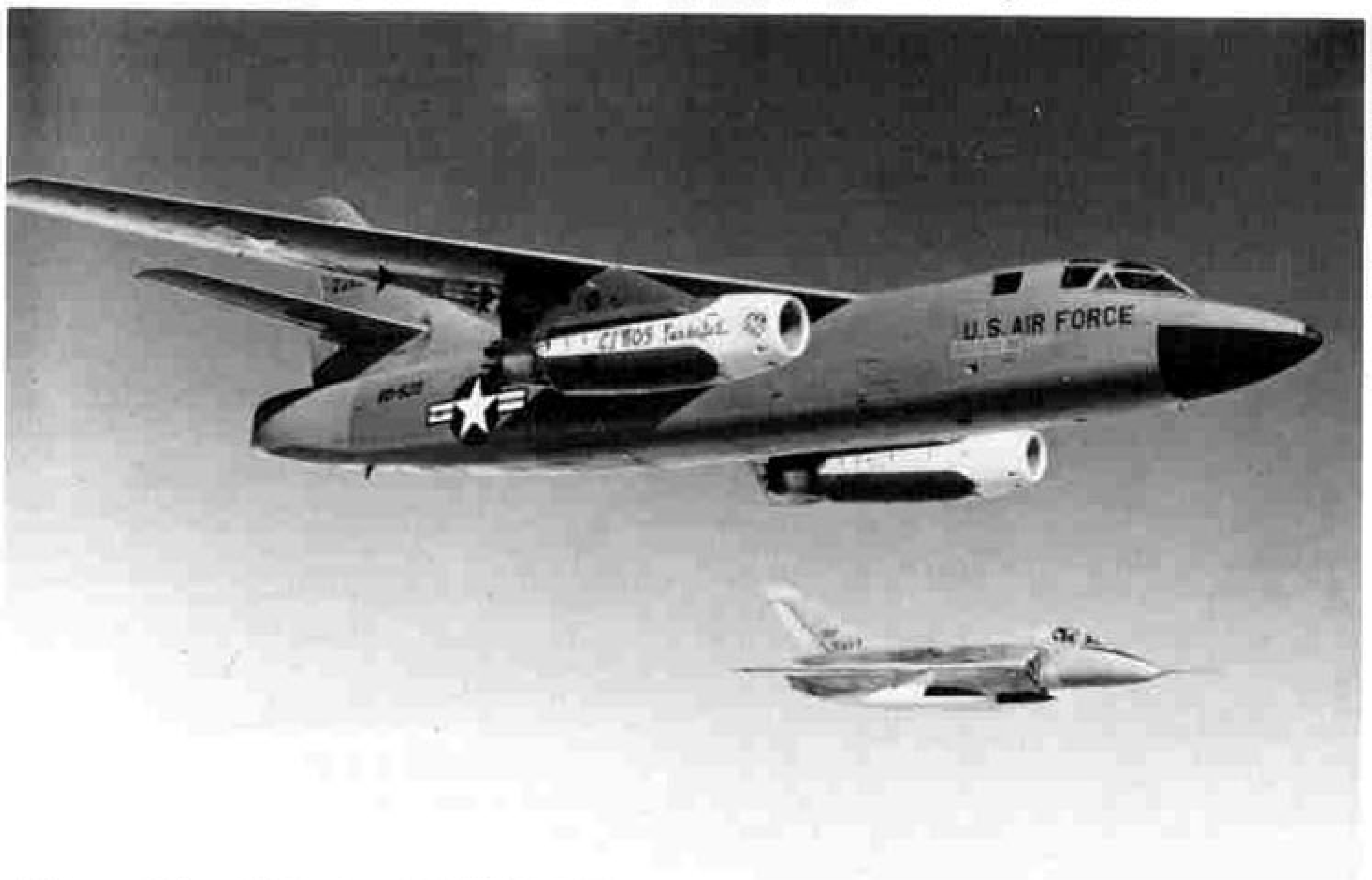
WB-66D, 55-405, undergoing pre-delivery final inspection at Douglas' Tulsa facility. "WB-16" marked underneath buzz number on empennage indicates this aircraft to be the sixteenth weather reconnaissance "Destroyer" built.

Yukio Enomoto



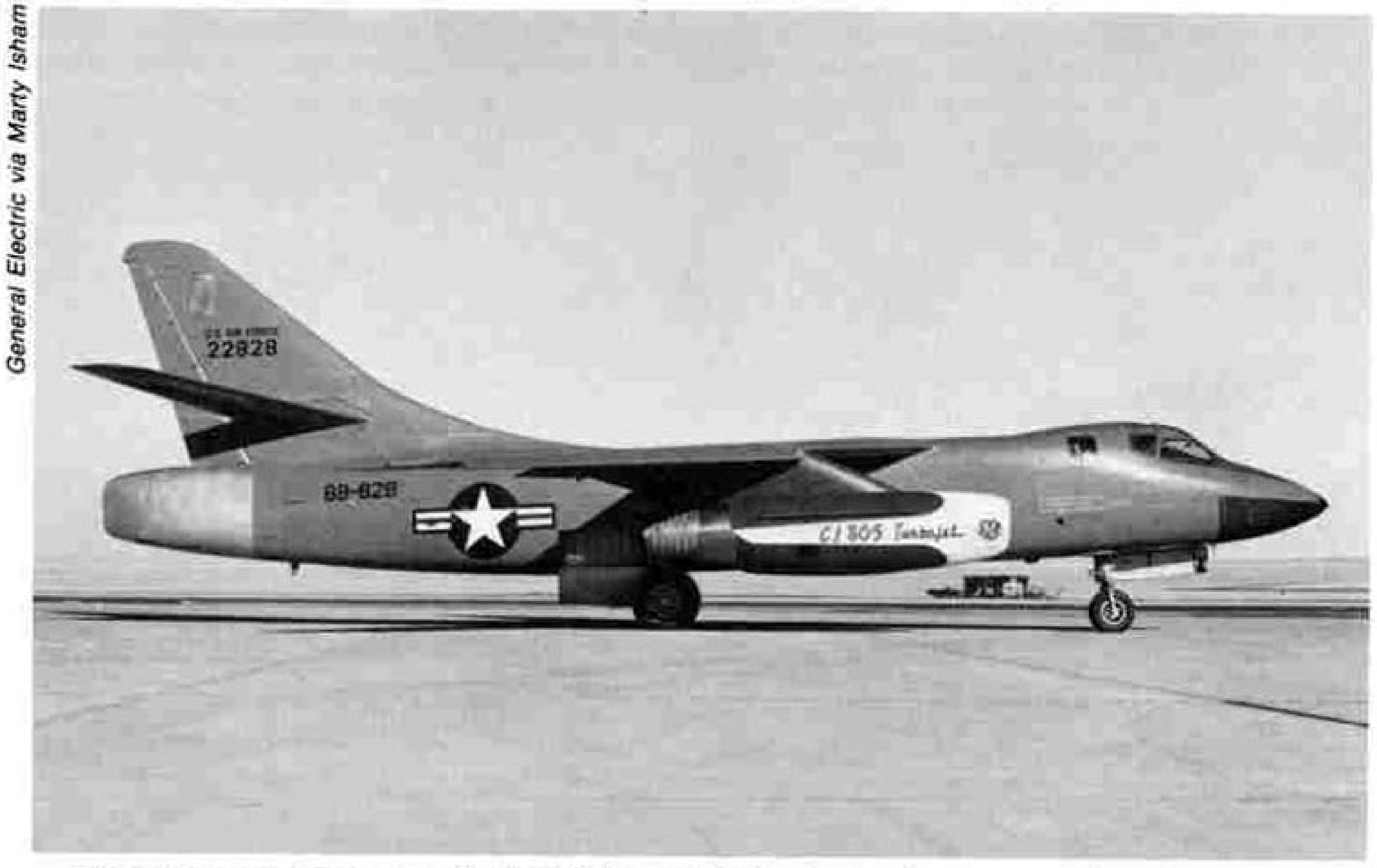
WB-66D, 55-424, was the second-to-last weather reconnaissance "Destroyer" built. Noteworthy in this view are the extended airbrakes, the wing pylon, and the last two digits of the aircraft serial number visible on the main landing gear well doors.

General Electric



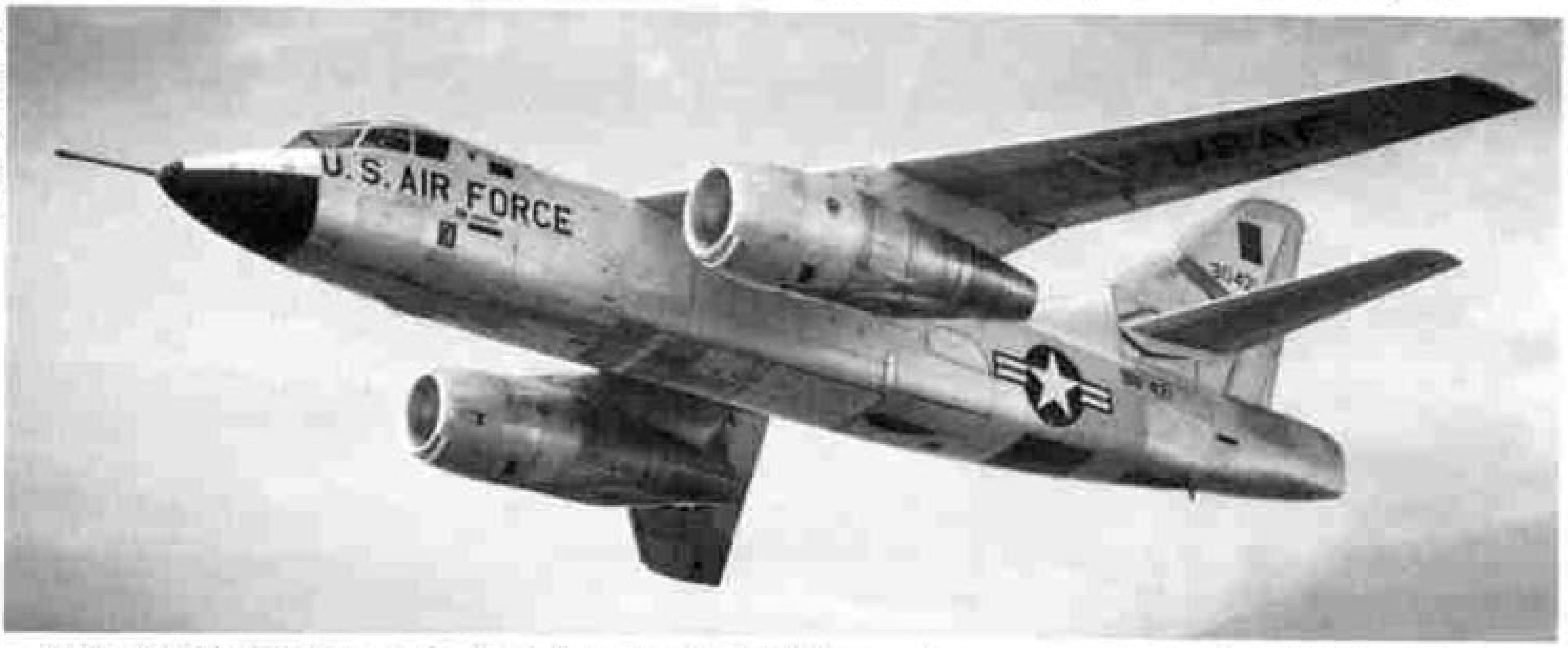
The prototype "Destroyer", (J)RB-66A, 52-2828, was utilized as an engine testbed late in its career. It is seen flying formation with the second Douglas XF4D-1 "Skyray", BuNo. 124587, while both were powered by General Electric CJ 805 turbojets.

General Electric via Marty Isham



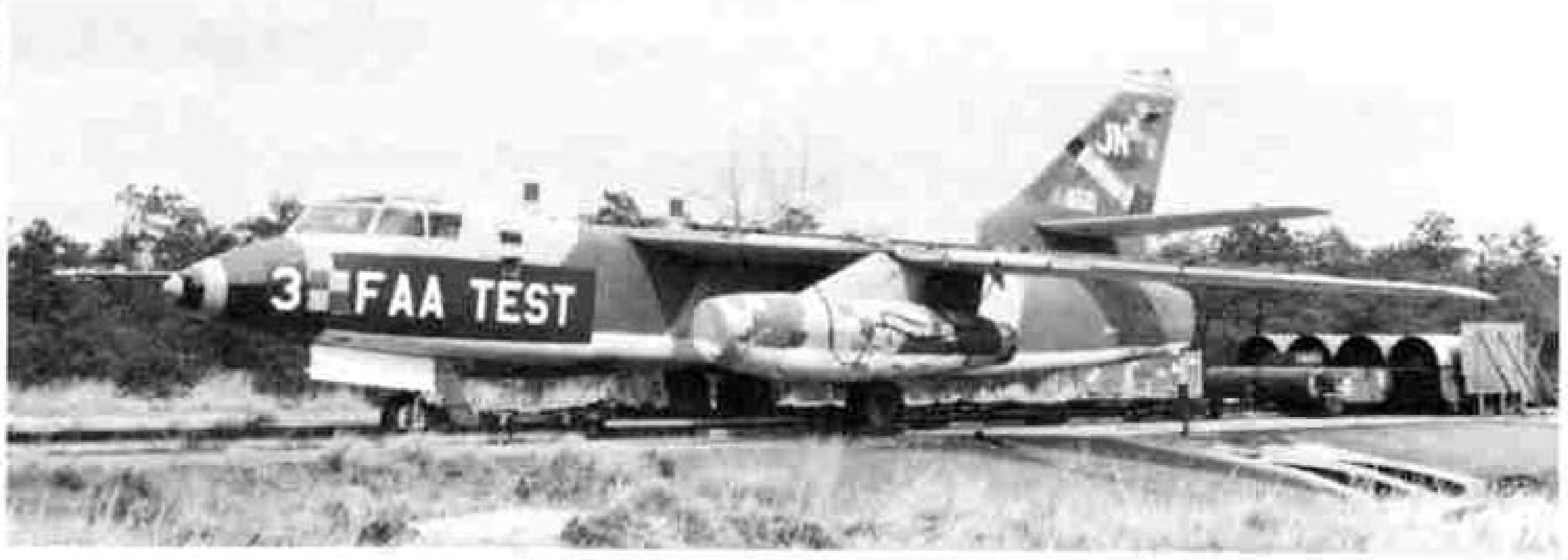
The prototype "Destroyer", (J)RB-66A, 52-2828, during the course of engine testbed work under the auspices of General Electric at Edwards AFB. The CJ 805-3 turbojet engines fit the "Destroyer's" original nacelles with minimal modification.

Pratt & Whitney



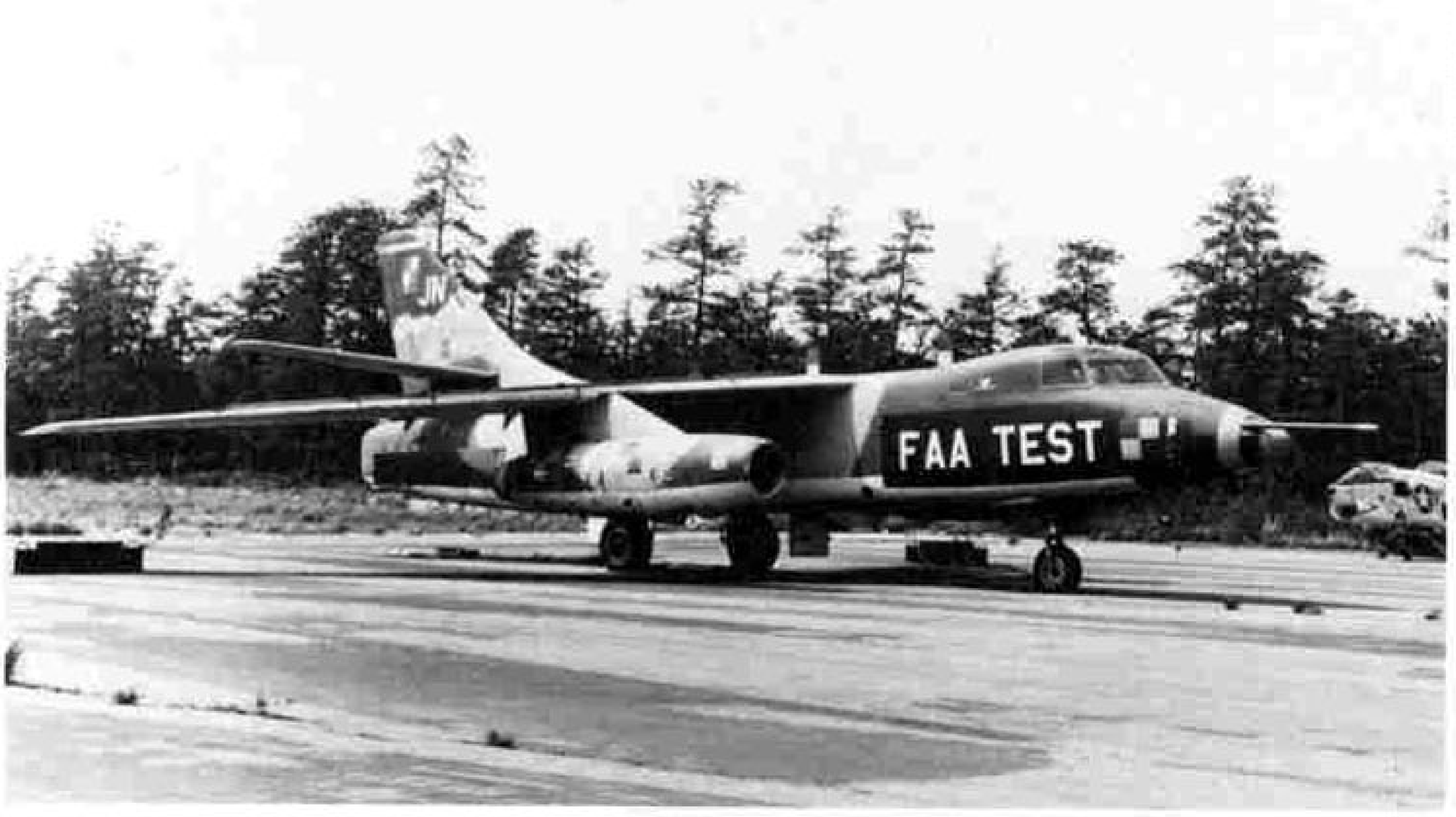
(N)RB-66B, 53-421, was bailed to Pratt & Whitney for use as an engine testbed during the course of the TF33-P-3 turbofan program. Totally new nacelles were required for this project and only the pylons remained essentially unchanged.

Norm Taylor



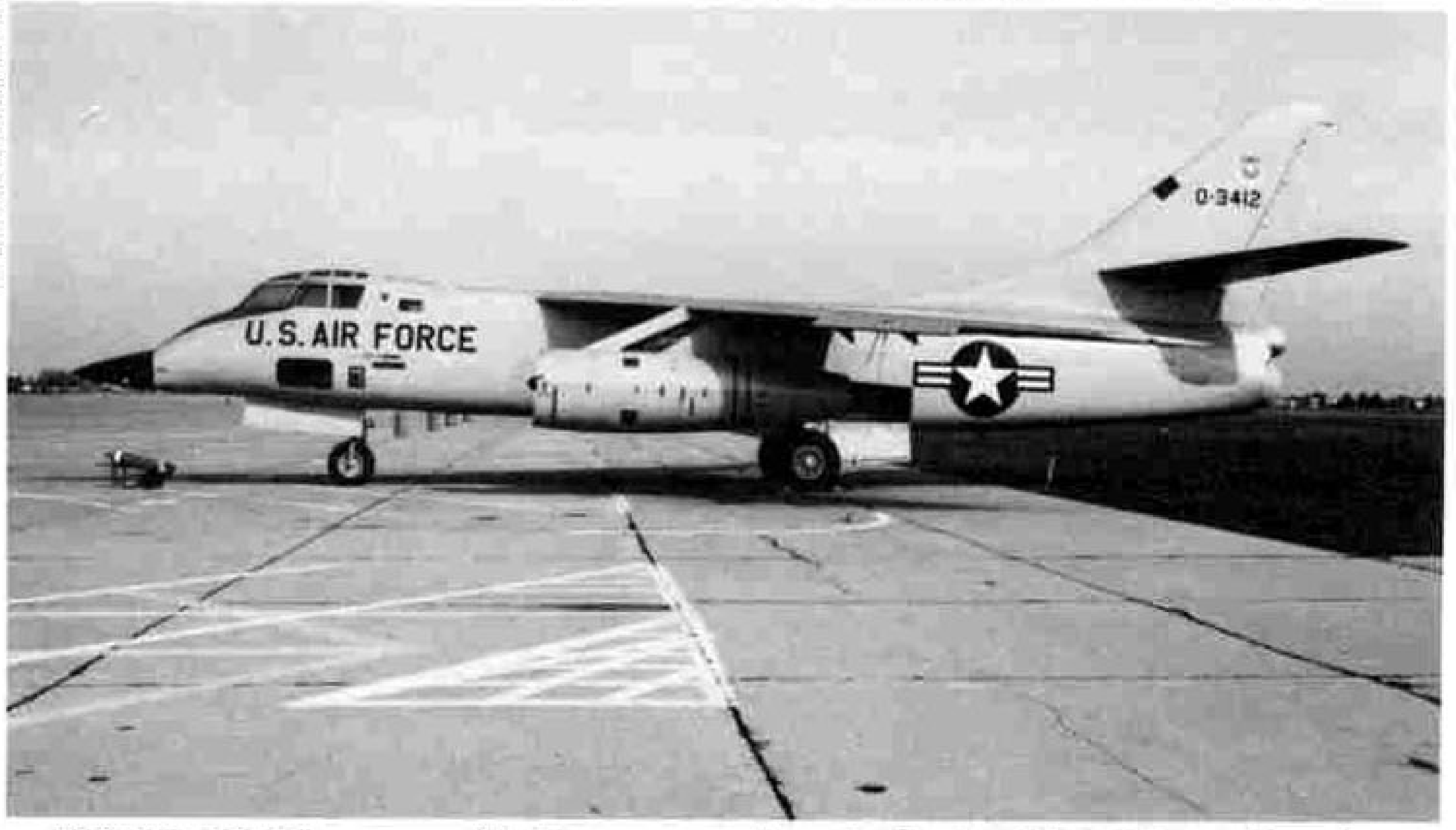
RB-66B, 53-450, was one of three "Destroyers" used by the FAA during the course of controlled crash tests at NAS Lakehurst. The aircraft were mechanically propelled down a special track and impacted on objects to determine crashworthiness.

Roger Besecker via Dave Menard

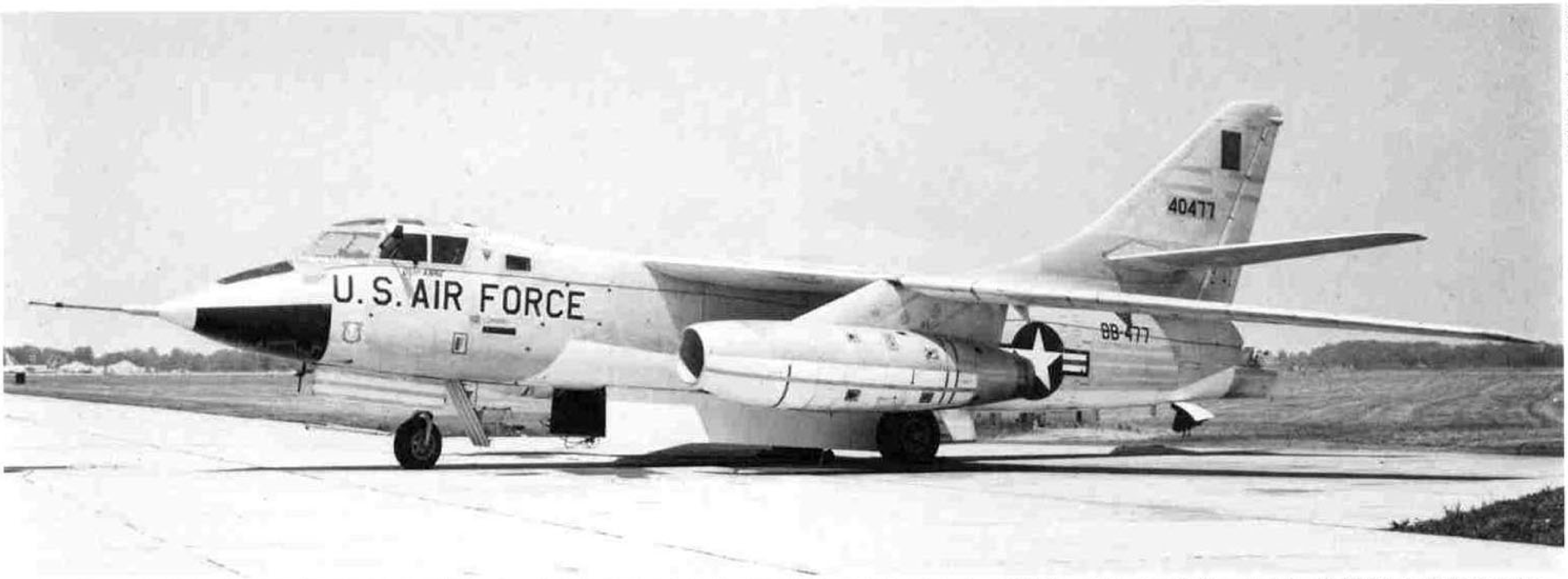


RB-66B, 53-453, prior to being utilized by the FAA for controlled crash tests at NAS Lakehurst. Visible on the upper surface of the wing is a spoiler-like fence designed to kill wing lift and thus help keep the aircraft on the ground.

Nick Williams collection

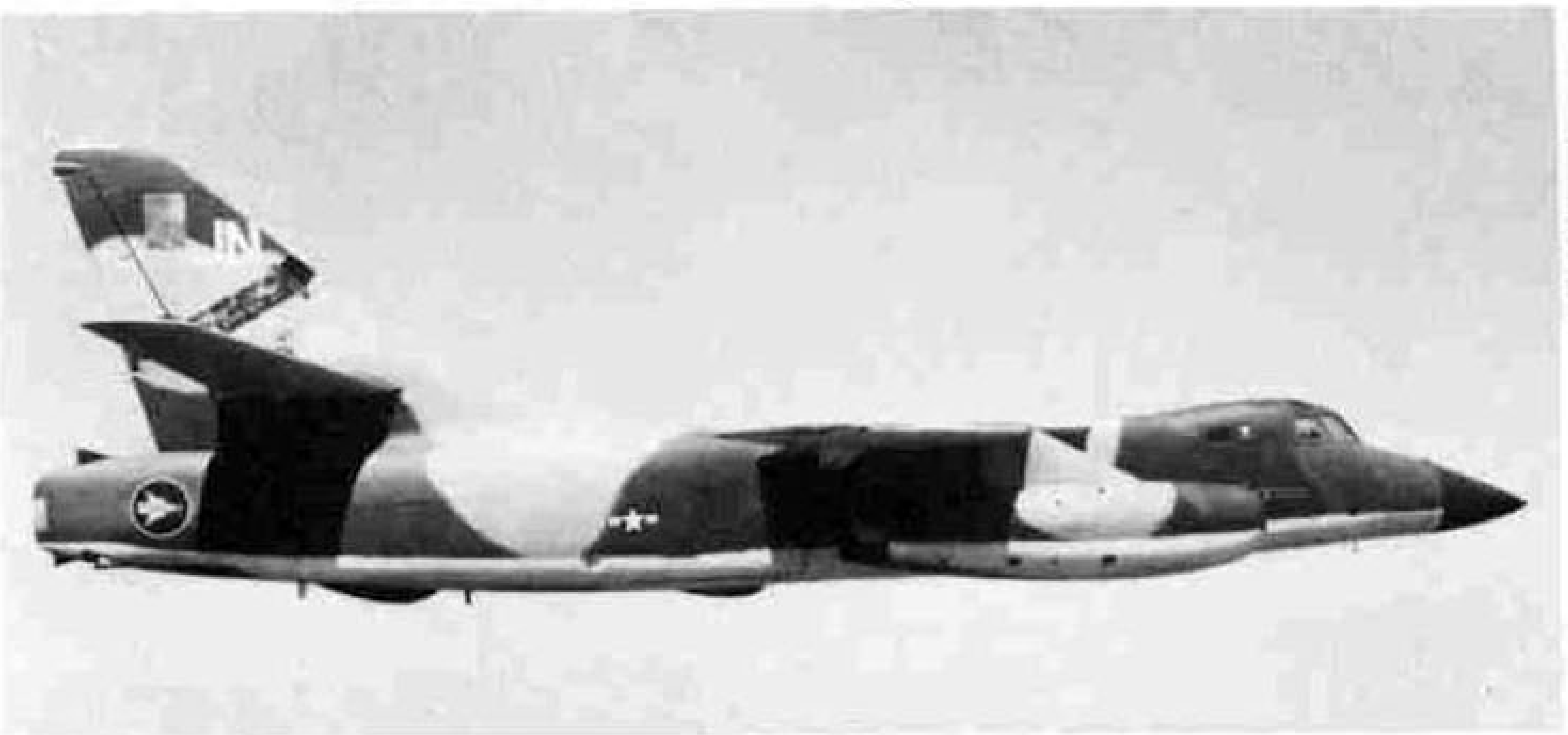


JRB-66B, 53-412, was modified to accommodate the Boeing IM-99 "Bomarc" surface-to-air missile radar test program requirements. Monitoring and recording equipment inside the "Destroyer" allowed full-scale testing of the system's capabilities.



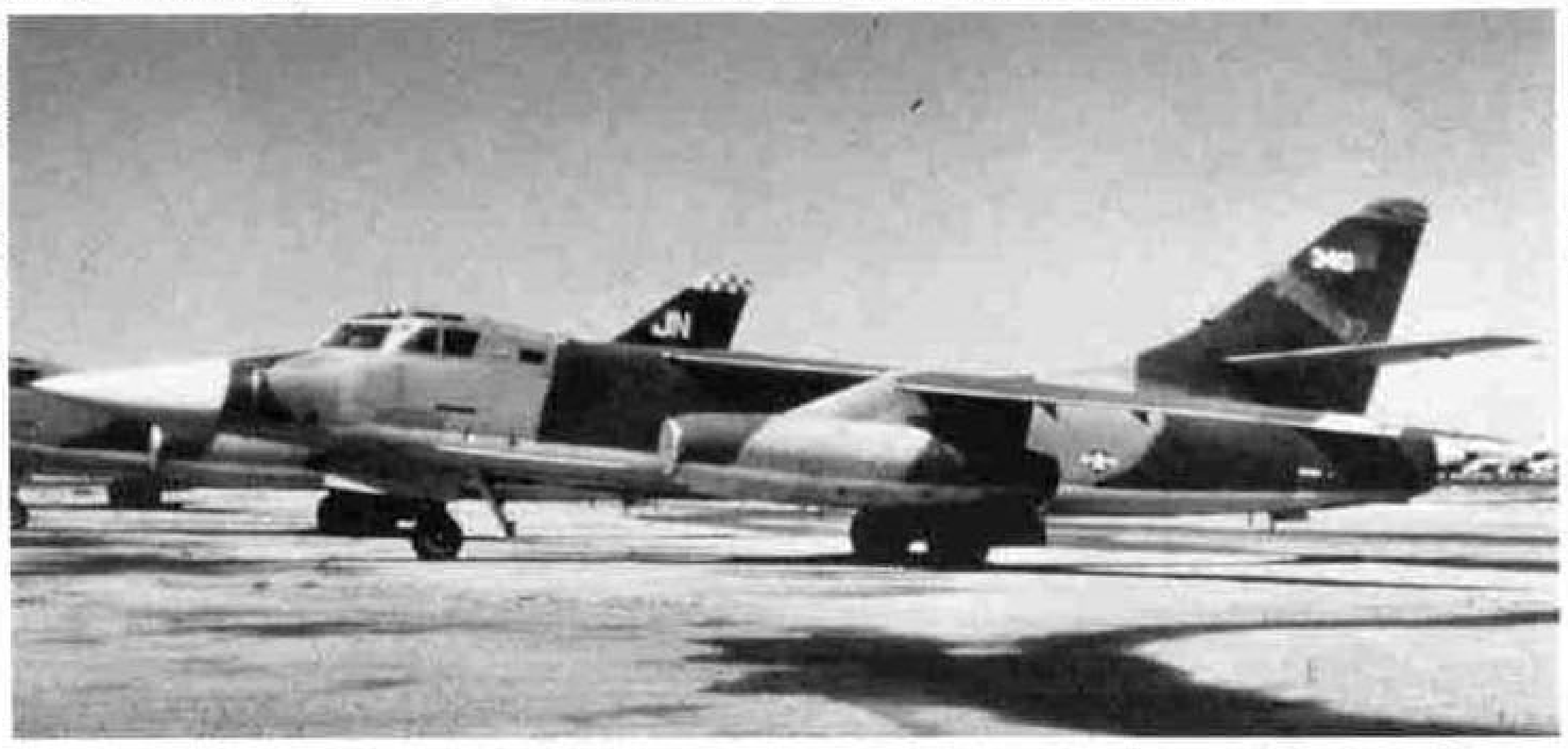
AAHS via Nick Williams

B-66B, 54-477, following modification by the ASD for use as a landing gear brake testbed. Attacked to the aft end of the empennage is the special anti-skid drag chute housing peculiar to this aircraft. Also noteworthy is the special nose-mounted static pitot boom, a side-view mirror attached to the windscreen framework, and what appears to be the nickname "Dlu Anne" just below the windscreen frame. The markings and configuration of this aircraft changed considerably over time.



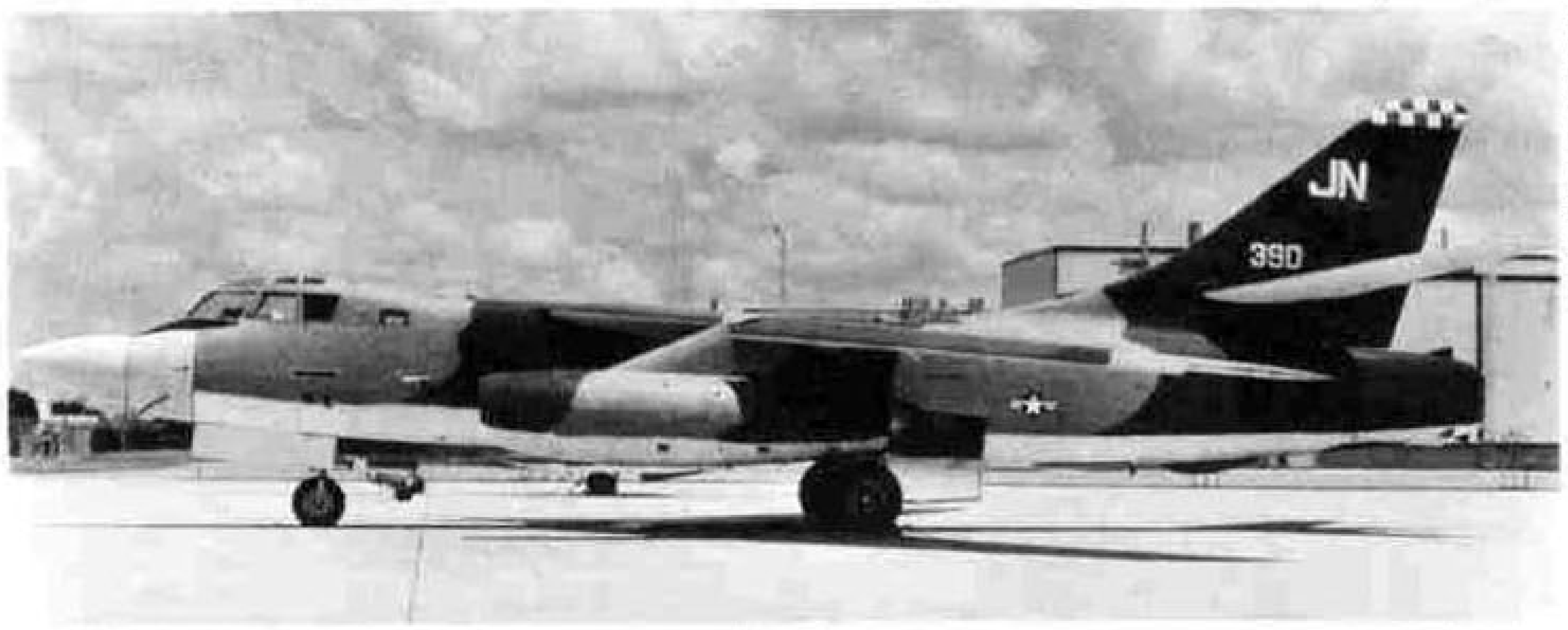
Nick Williams collection

The last of the "Destroyer" testbeds to be flown was WB-66D, 55-391, which was bailed to Hughes for use in flight testing the AN/APG-63 radar later found in the McDonnell Douglas F-15A. An AN/APG-63/F-15 badge can be seen on the empennage.



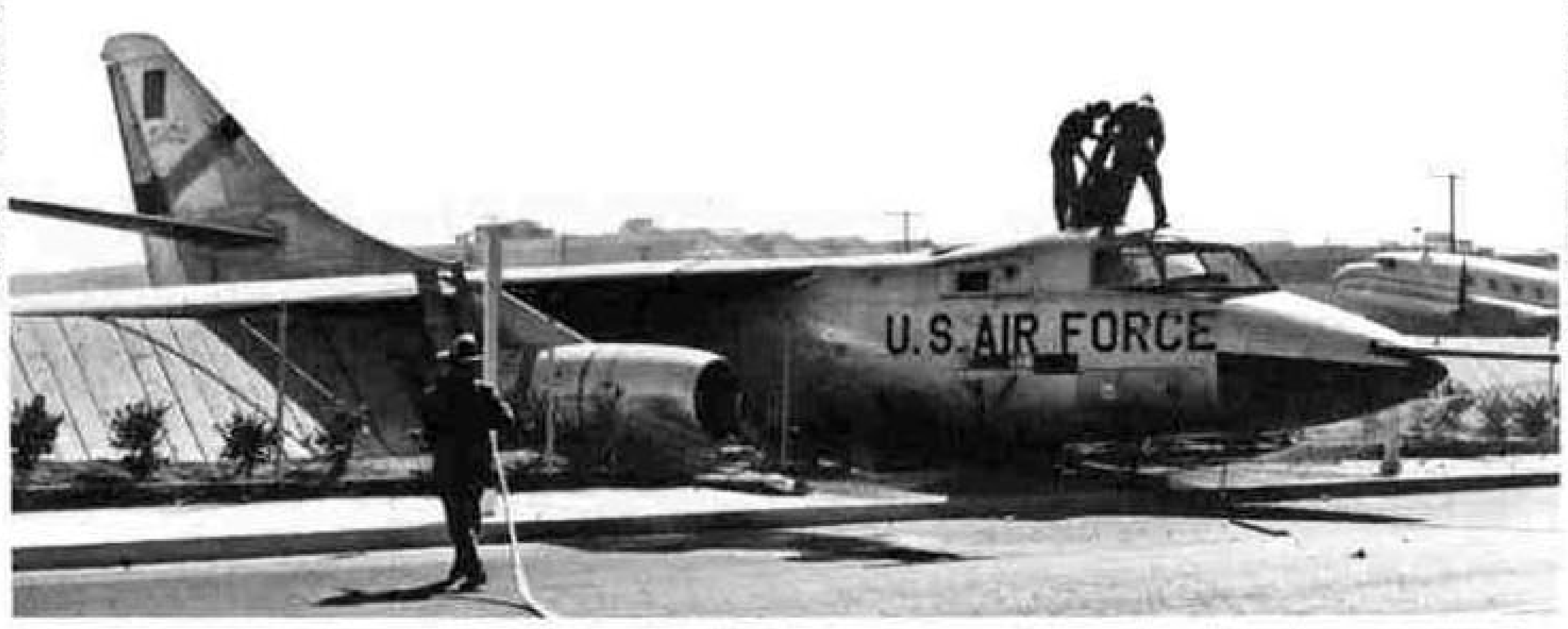
Mick Roth collection

The aardvark-like NRB-66B, 53-413, was one of the lesser-known "Destroyer" testbeds. It was equipped with the nose radome and associated Texas Instruments and General Precision radar systems for the F-111A (MK.I avionics).



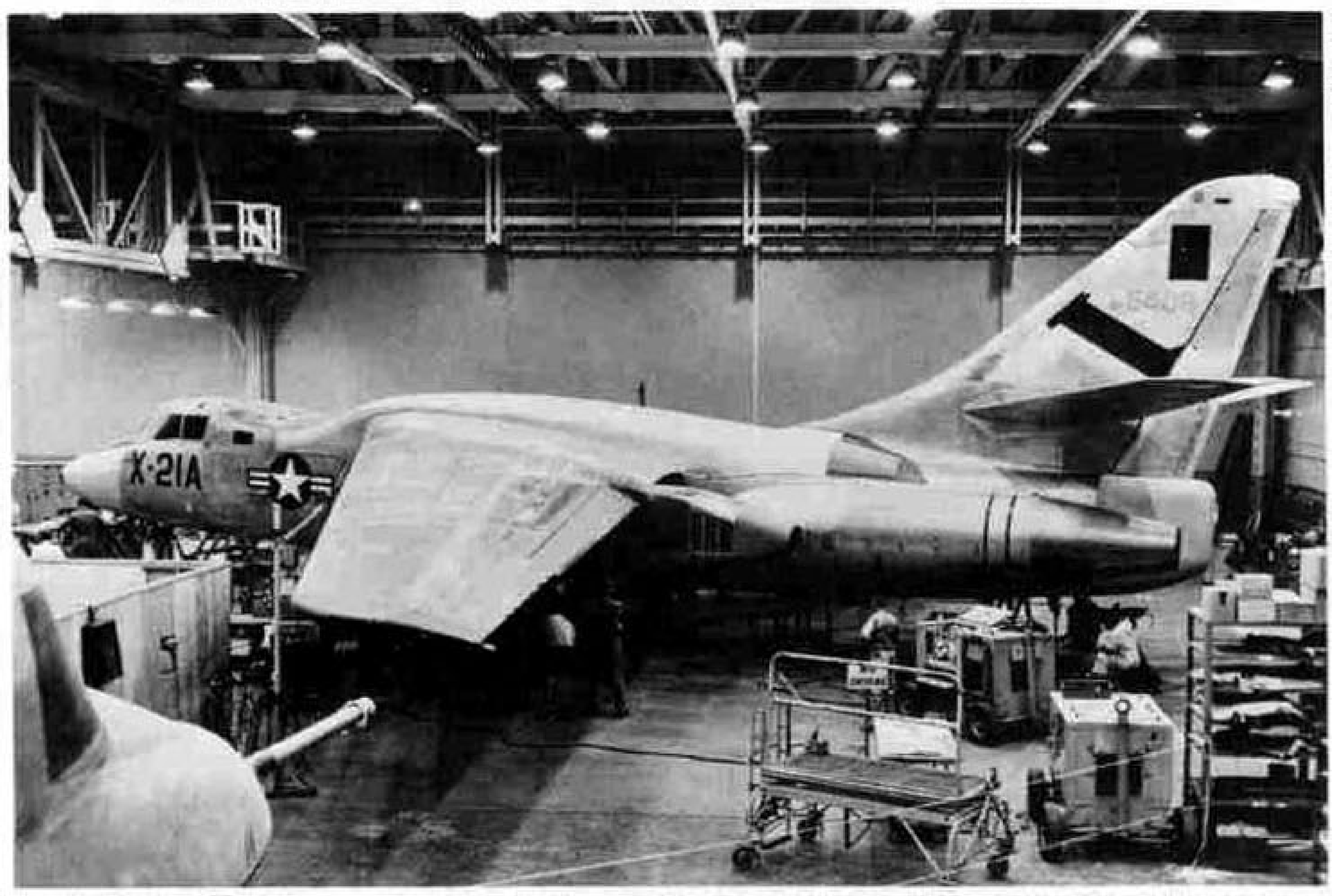
Aerofax, Inc. collection

JWB-66D, 55-390, was utilized as a testbed for what was apparently the AN/APQ-120 radar found in the McDonnell F-4E "Phantom II". As with other testbeds of this type, the actual radome was grafted to the "Destroyer's" nose.



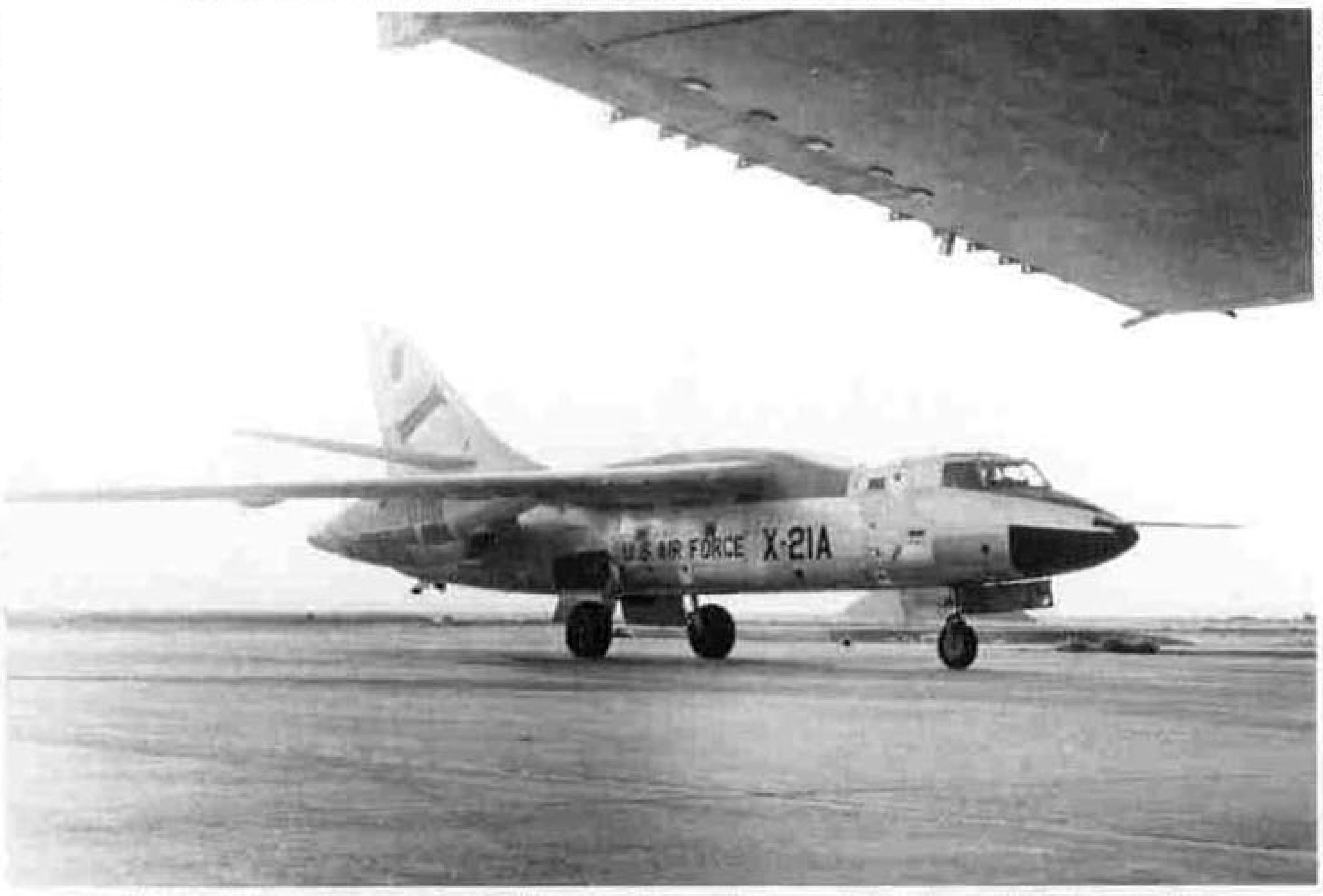
Northrop via Gerald Balzer

WB-66D, 55-409, had been bailed to Northrop as one of two aircraft to be converted to the X-21 configuration. A brake failure upon landing at Northrop's Hawthorne facility ended those plans and it was replaced by WB-66D, 55-410.



Northrop via Gerald Balzer

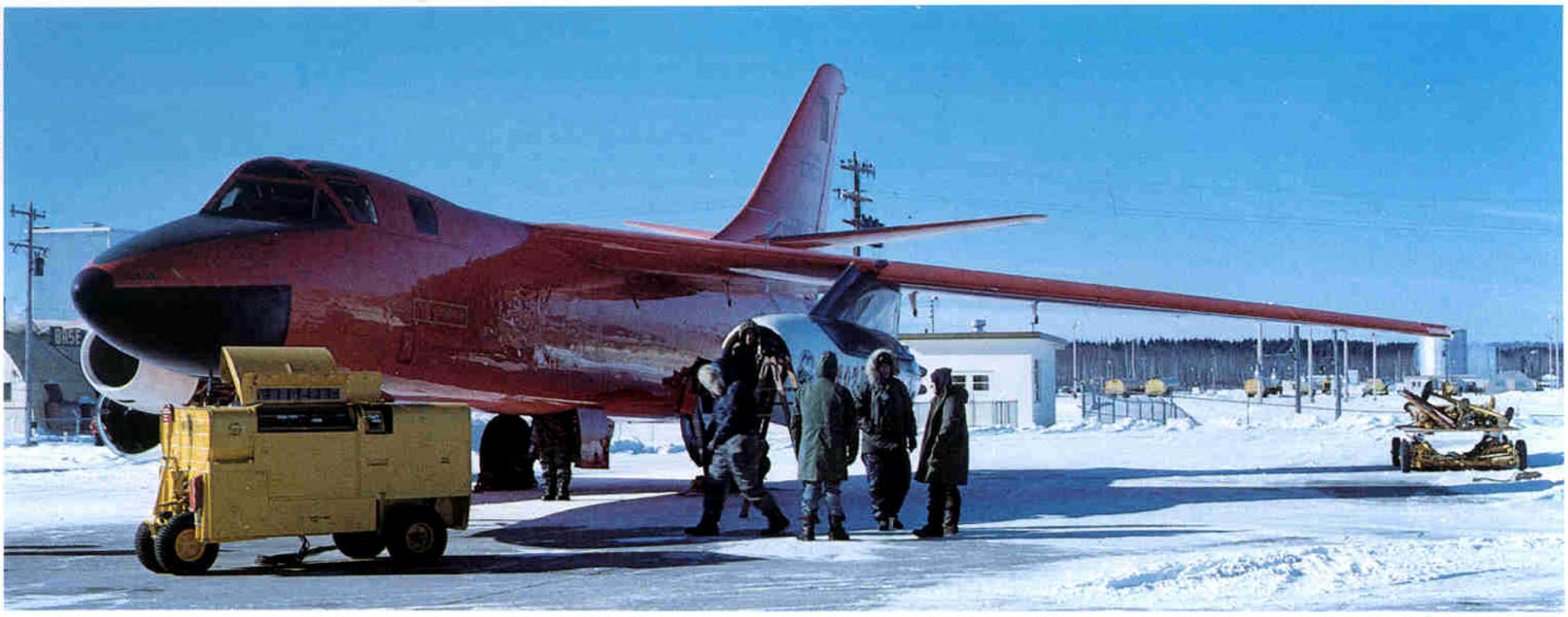
WB-66D, 55-408, nearing completion as the first X-21A laminar flow testbed aircraft. The modifications were extensive, and major. Besides the totally new wing, the engines were replaced and moved to the empennage.



Northrop via Gerald Balzer

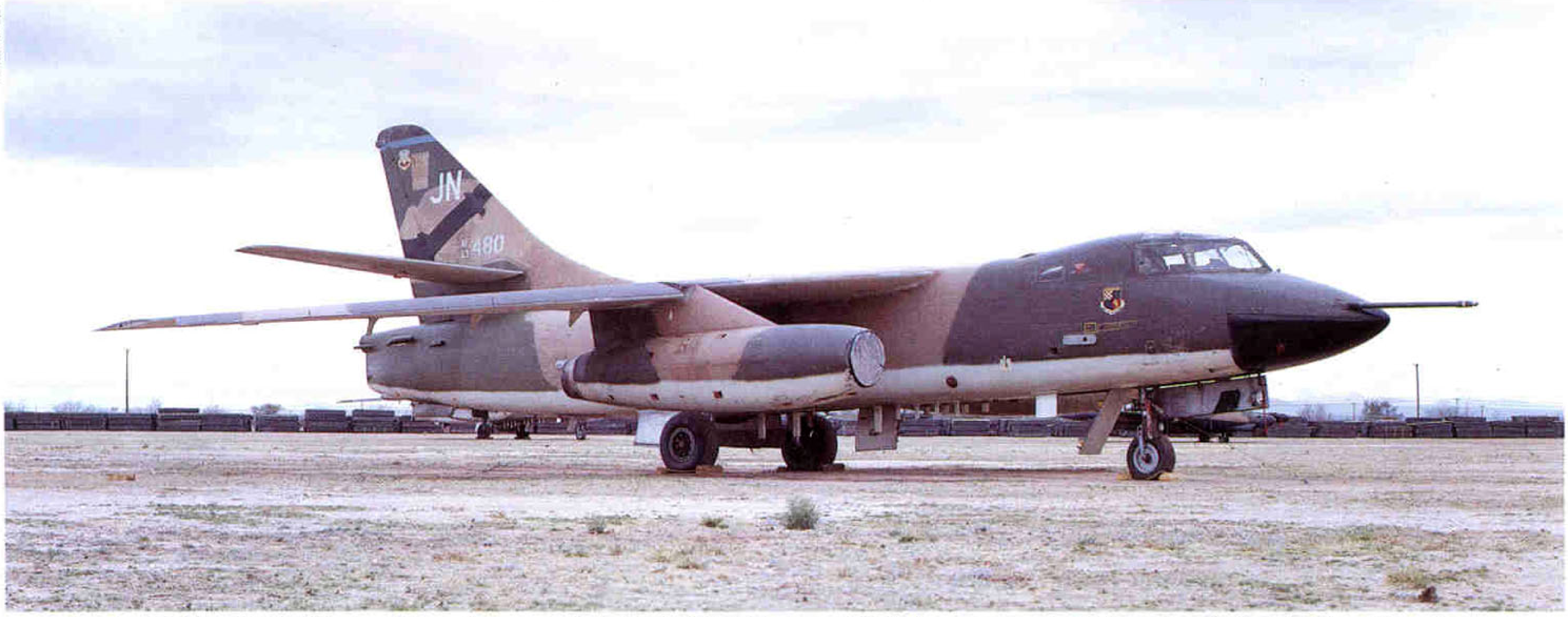
The rarely seen second X-21A, 55-410, following its early morning arrival at Edwards AFB after departing Northrop's Hawthorne facility on its first flight on August 15, 1963, with company test pilot Jack Wells at the controls.

N. A. Weeks via Nick Williams



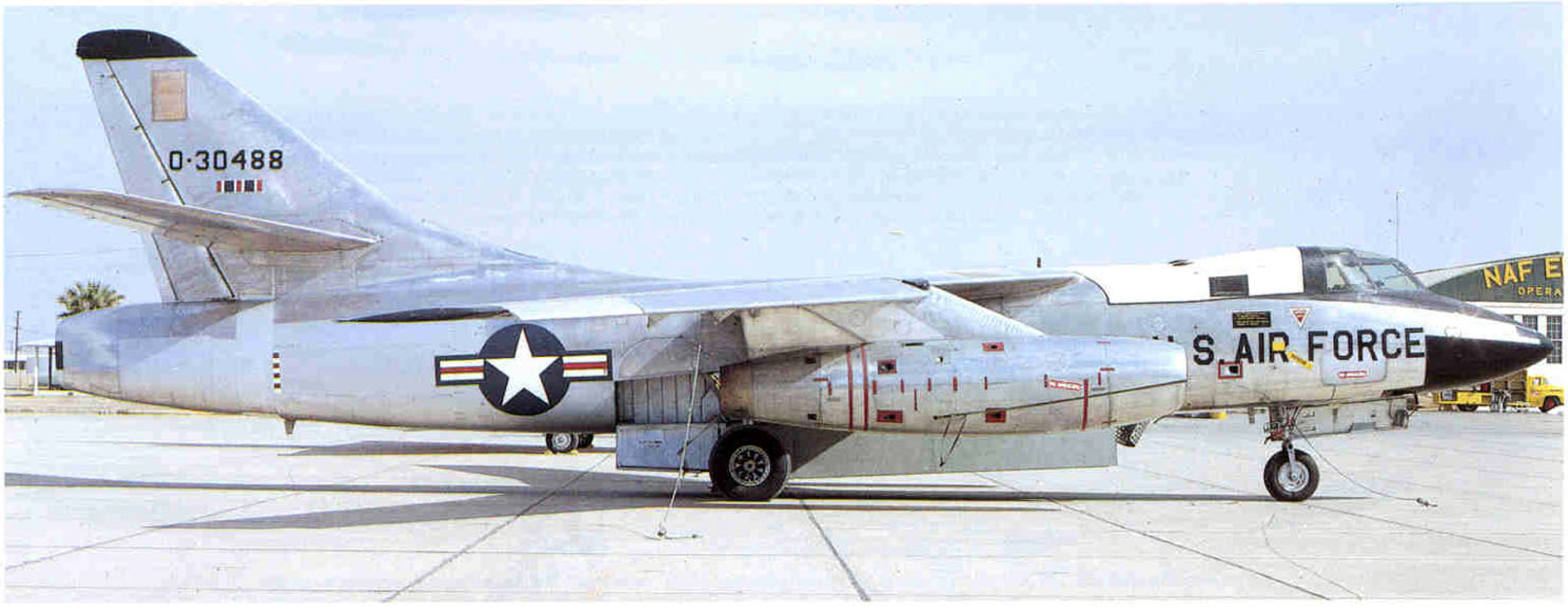
Douglas JRB-66A, 52-2828, the very first "Destroyer" prototype, utilized by General Electric during the course of CJ805 engine tests. The CJ805-3 turbojet and CJ805-23 aft-turbofan configurations were flown utilizing this aircraft. The aft-turbofan version dictated variations in configuration of the nacelles which consequently were larger in diameter to permit by-pass ducting. Versions of the CJ805 later were used to power the Convair 880 and 990 series airliners.

Peter Lewis

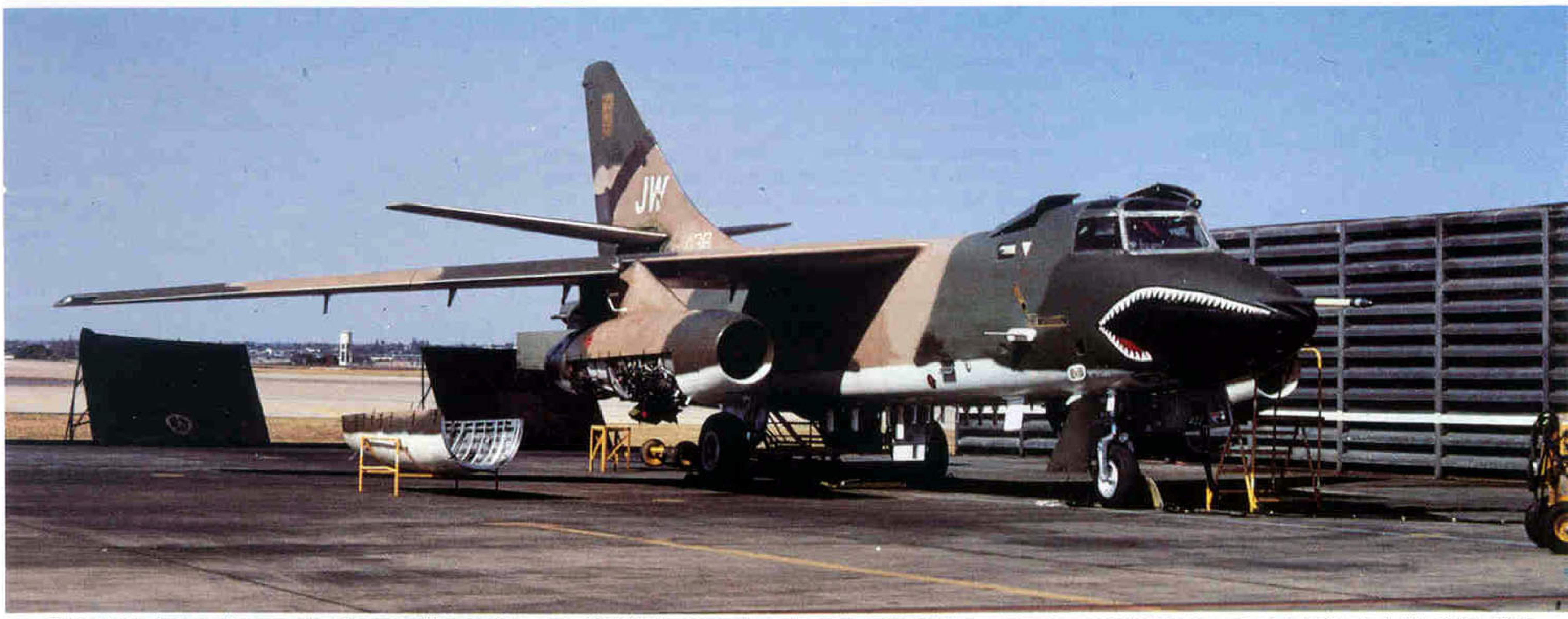


Douglas EB-66E, 53-480. This aircraft began life as one of a batch of 73 RB-66Bs. As an EB-66E, it was equipped with the most sophisticated of the various electronic warfare suites to equip the "Destroyer". It is seen at Davis-Monthan AFB during March 1976, not long after removal from the active AF inventory and just prior to being placed in inviolate storage at what then was the Military Aircraft Storage and Disposition Center. It was never again flown.

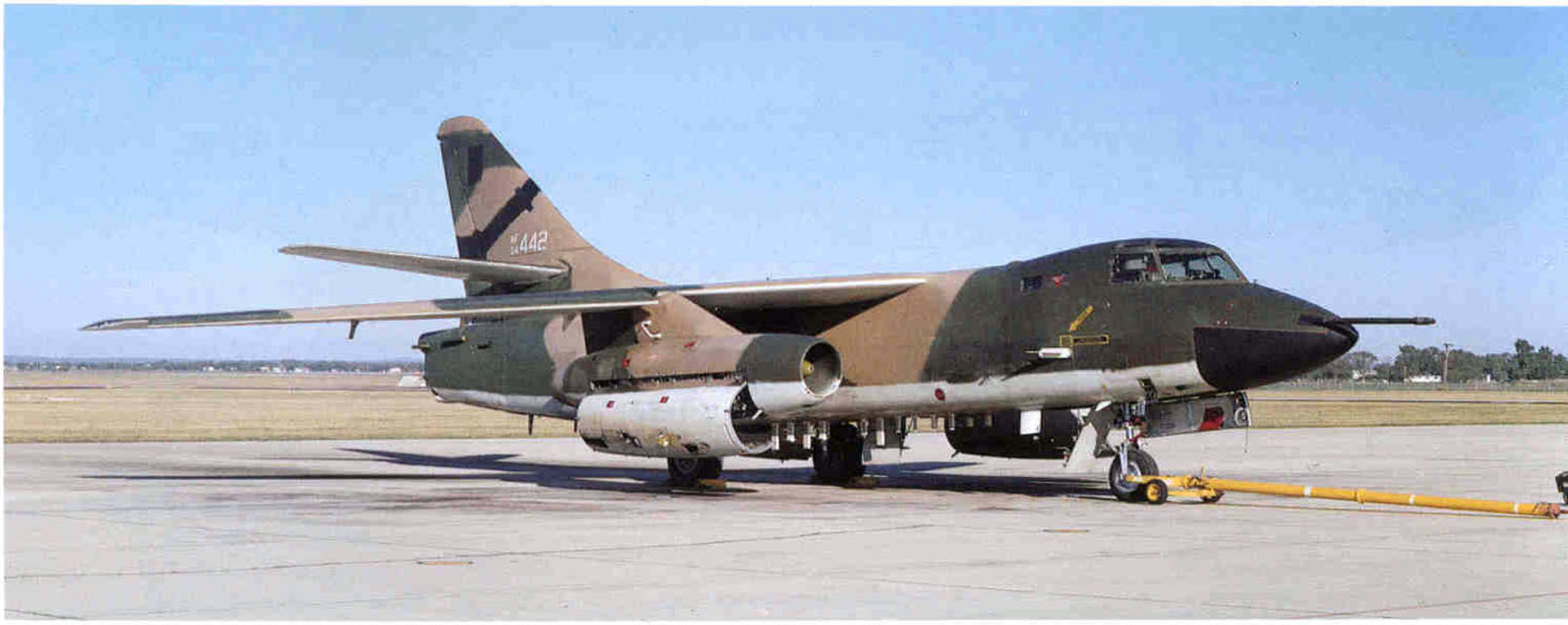
Marty Isham collection



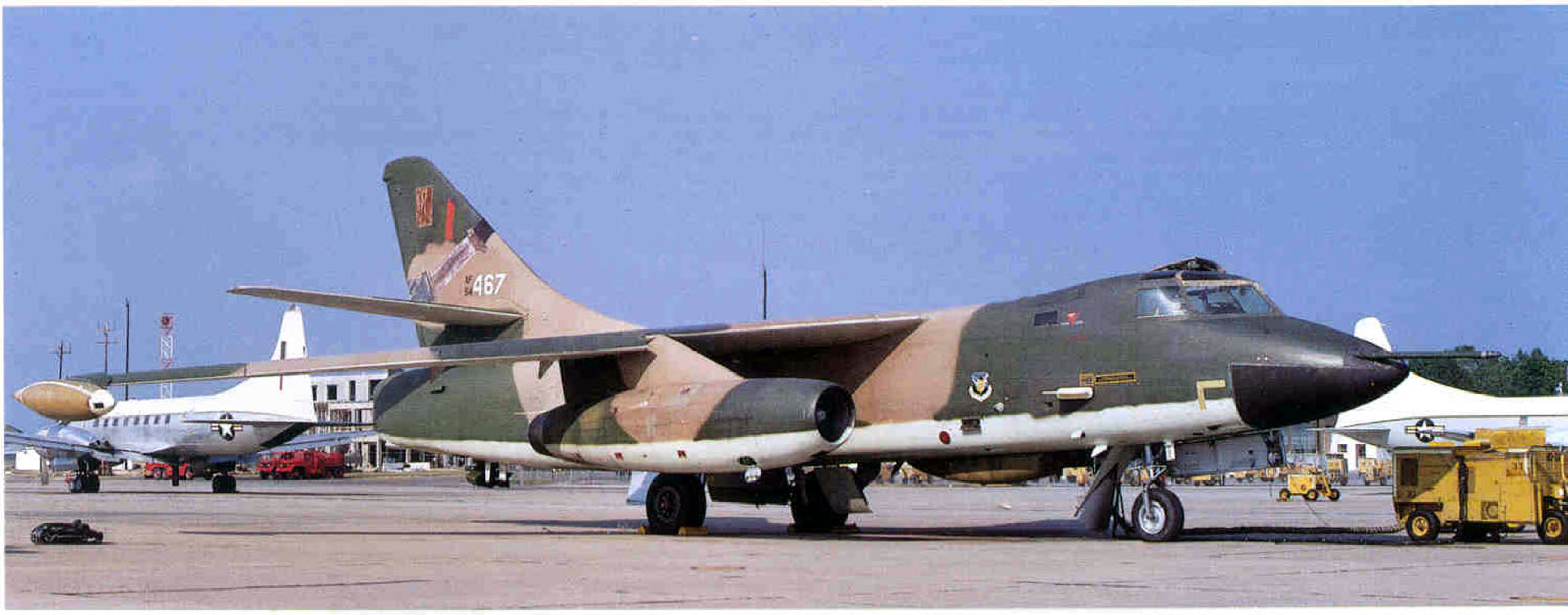
Douglas NB-66B, 53-488, during March 1962. This aircraft was one of the very few to wear reflective white paint over the aft cabin area. It is assumed this scheme reduced internal heat build-up. Noteworthy is the absence of an inflight refueling probe and the early-style faired empennage optimized for EW equipment. The latter apparently was never installed in this aircraft. The open bomb bay doors also are noteworthy. This was one of the few B-66Bs not modified into the EB-66B configuration.



Truly distinctive markings on the "Destroyer" were fairly rare. A select few aircraft, such as ***EB-66E, 54-438****, undergoing general maintenance and tailcoded JW, of the 42nd TEWS/388th TFW, defied this trend. The decidedly large sharkmouth is noteworthy, as is the white forward segment of the inflight refueling probe. The four-tone Vietnam-era camouflage is somewhat non-standard with its two shades of tan. All other markings on the aircraft appear to be standard for type.*



Douglas EB-66E, 54-442*, of the 39th TEWTS/363rd TRW, assigned to Shaw AFB. The aircraft bears standard Vietnam-era three-tone camouflage and an early-generation ventral antenna farm. Visible are the opened, lower engine nacelle access panels which, for total engine maintenance, could be completely removed. The "Destroyer" normally was towed conventionally utilizing the fork assembly of the nose gear, after the anti-torque link had been disconnected.*



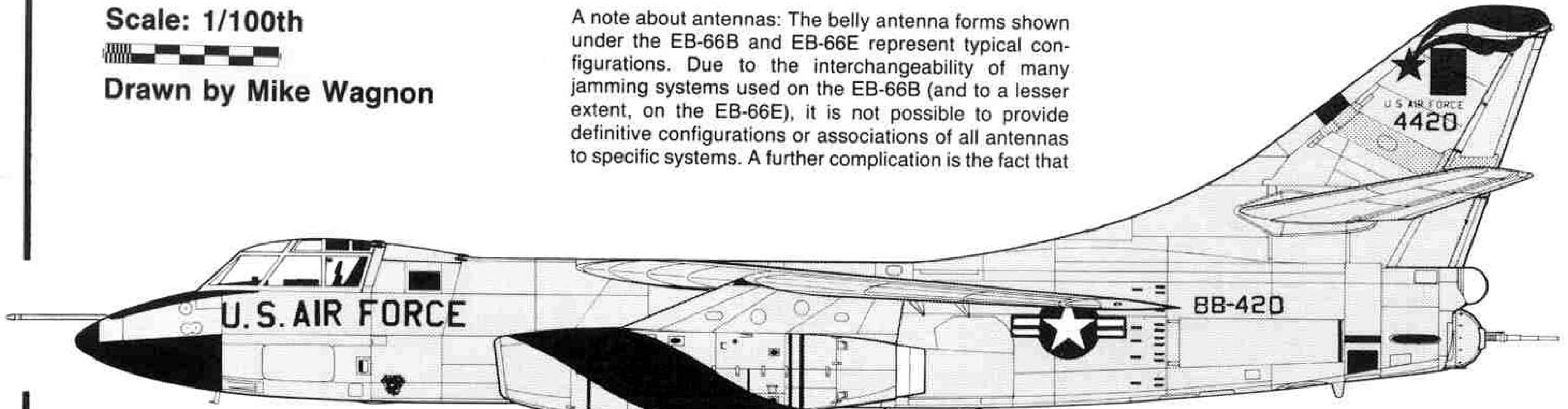
Douglas RB-66C, 54-467*, during May 1970. Distinctive features of this configuration included the faired ventral antennas in their elongated fiberglass canoe, the wingtip antenna pods (seen without paint), and the placement of miscellaneous EW antennas. Three-tone Vietnam-era camouflage is standard for type, though significance of red vertical bar on vertical fin is unknown. A total of thirty "Destroyers" were manufactured in the RB-66C configuration.*

SELECT MARKINGS

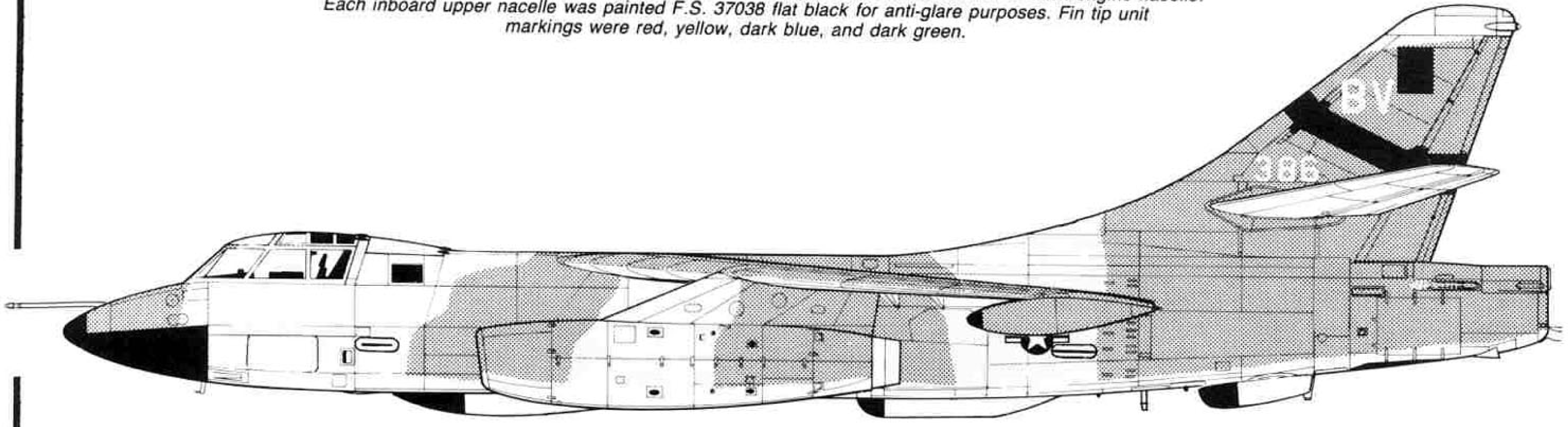
Scale: 1/100th

Drawn by Mike Wagnon

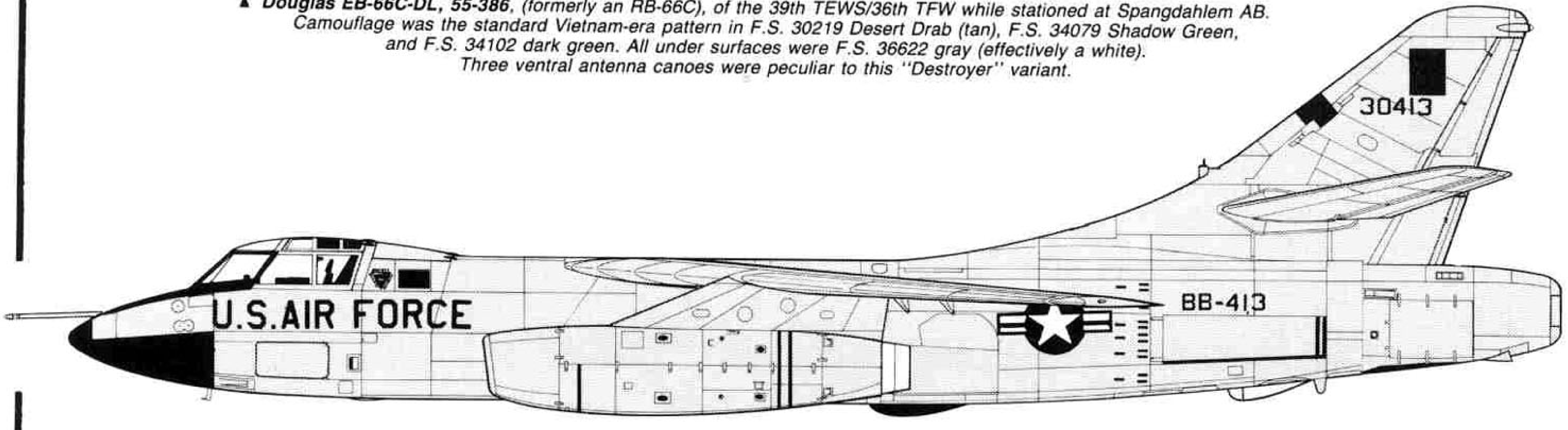
A note about antennas: The belly antenna forms shown under the EB-66B and EB-66E represent typical configurations. Due to the interchangeability of many jamming systems used on the EB-66B (and to a lesser extent, on the EB-66E), it is not possible to provide definitive configurations or associations of all antennas to specific systems. A further complication is the fact that



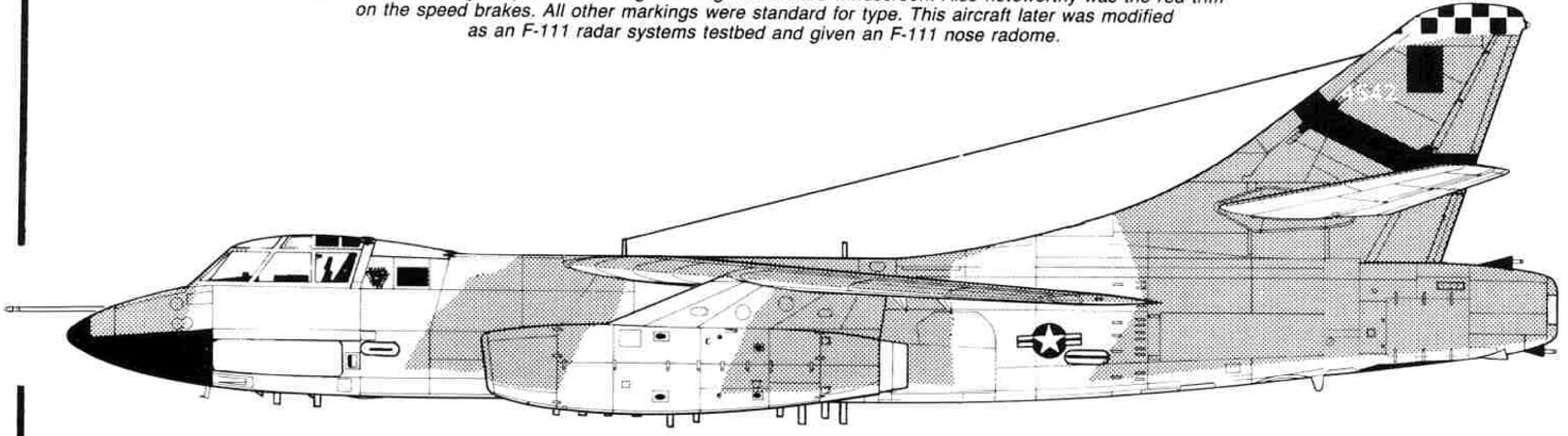
▲ ***Douglas RB-66B-DL, 54-420**, of the 110th TRW while stationed at Buchel AFB during 1960. It is represented in bare metal with markings consisting of a gloss, dark green stripe on the outboard half of each engine nacelle. Each inboard upper nacelle was painted F.S. 37038 flat black for anti-glare purposes. Fin tip unit markings were red, yellow, dark blue, and dark green.*



▲ ***Douglas EB-66C-DL, 55-386**, (formerly an RB-66C), of the 39th TEWS/36th TFW while stationed at Spangdahlem AB. Camouflage was the standard Vietnam-era pattern in F.S. 30219 Desert Drab (tan), F.S. 34079 Shadow Green, and F.S. 34102 dark green. All under surfaces were F.S. 36622 gray (effectively a white). Three ventral antenna canoes were peculiar to this "Destroyer" variant.*

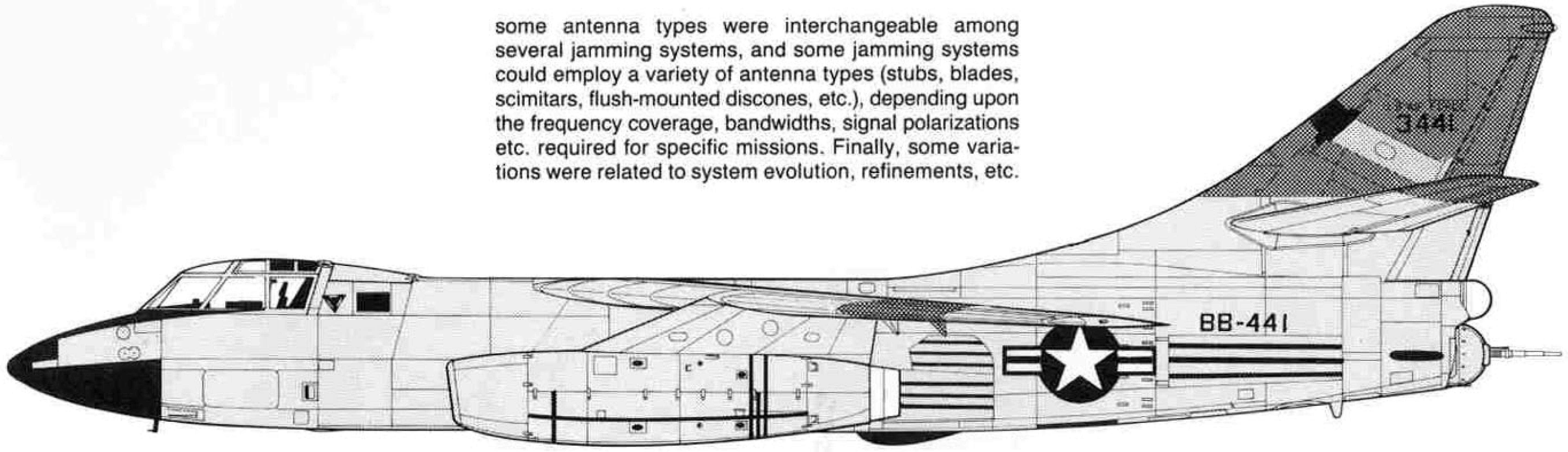


▲ ***Douglas RB-66B-DL, 53-413**, in natural metal finish with early-configuration ECM empennage extension. Noteworthy was the black anti-glare-painted framing outlining the forward windscreen. Also noteworthy was the red trim on the speed brakes. All other markings were standard for type. This aircraft later was modified as an F-111 radar systems testbed and given an F-111 nose radome.*

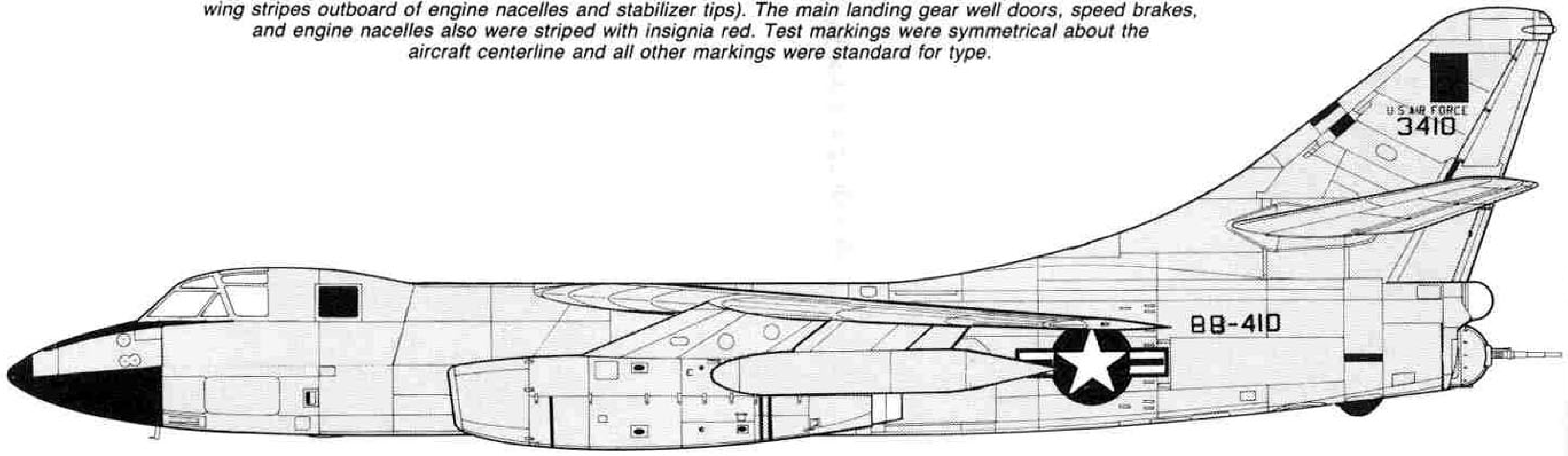


▲ ***EB-66B-DL, 54-542**, (formerly an RB-66B) of the 4411th CCTS/363rd TRW as seen at Yakota AB during 1968. It was in standard Vietnam-era camouflage of F.S. 30219 Desert Drab, F.S. 34079 Shadow Green, F.S. 34102 dark green, and F.S. 36622 gray. The fin tip carried the unit's red and white checkerboard markings. Noteworthy was this aircraft's communication antenna wire extending from the wing root area to the vertical fin.*

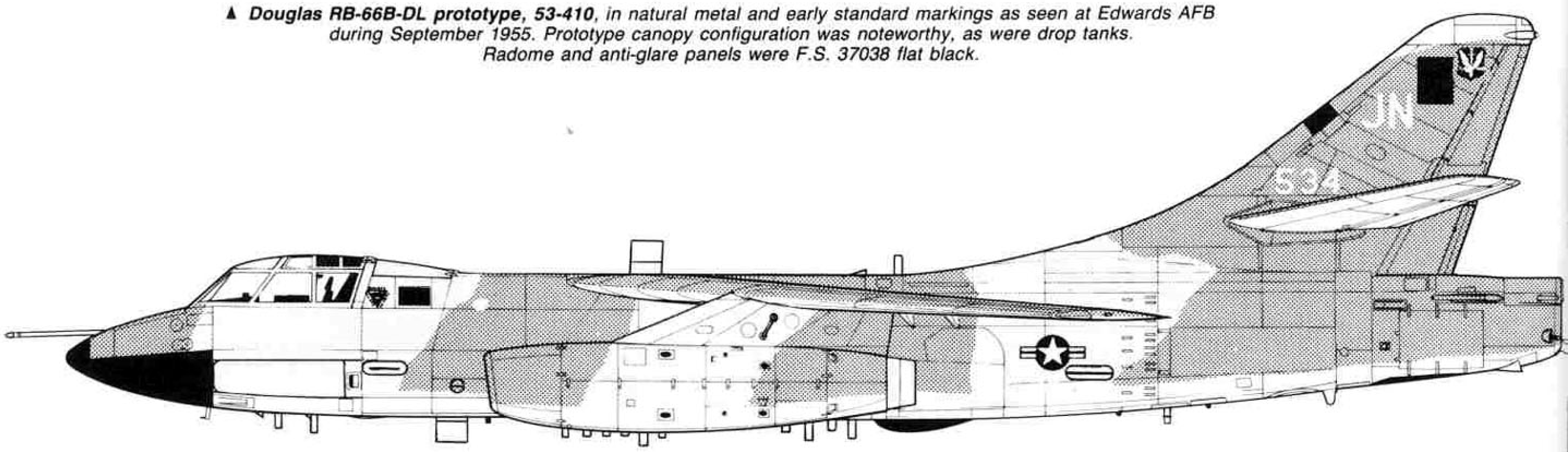
some antenna types were interchangeable among several jamming systems, and some jamming systems could employ a variety of antenna types (stubs, blades, scimitars, flush-mounted discones, etc.), depending upon the frequency coverage, bandwidths, signal polarizations etc. required for specific missions. Finally, some variations were related to system evolution, refinements, etc.



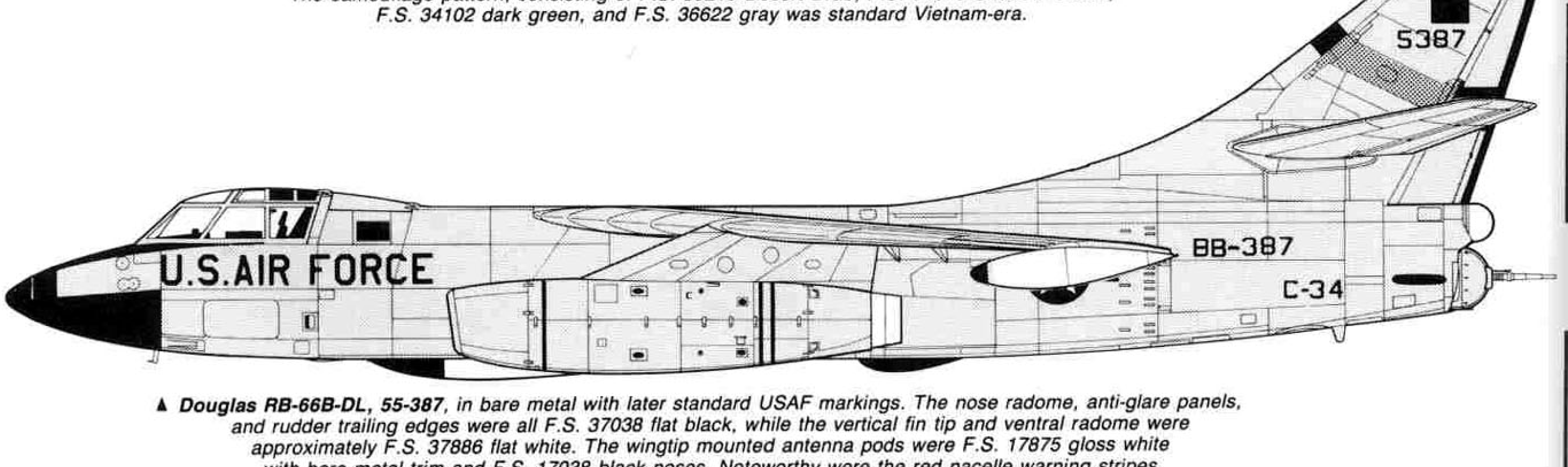
▲ ***RB-66B-DL, 53-441**, in natural metal with F.S. 11136 insignia red test markings during duty at Edwards AFB (note wing stripes outboard of engine nacelles and stabilizer tips). The main landing gear well doors, speed brakes, and engine nacelles also were striped with insignia red. Test markings were symmetrical about the aircraft centerline and all other markings were standard for type.*



▲ ***Douglas RB-66B-DL prototype, 53-410**, in natural metal and early standard markings as seen at Edwards AFB during September 1955. Prototype canopy configuration was noteworthy, as were drop tanks. Radome and anti-glare panels were F.S. 37038 flat black.*



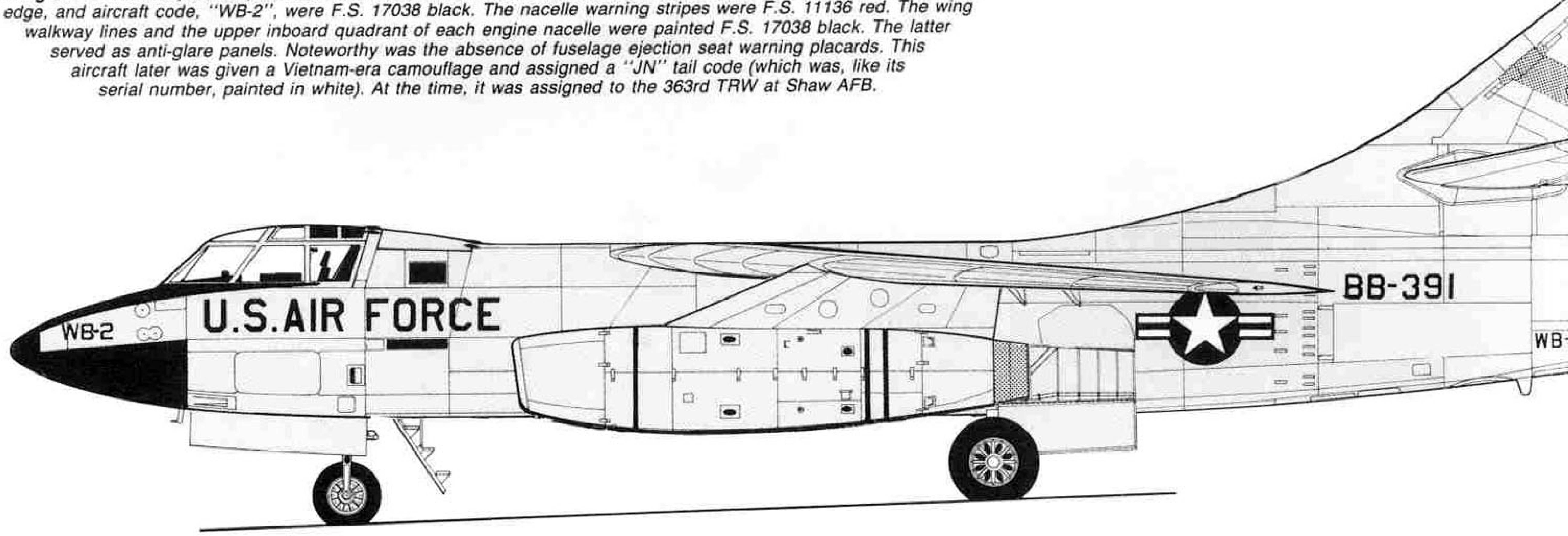
▲ ***Douglas EB-66E-DL, 54-534**, (formerly an RB-66B), of the 39th TEWTS/363rd TRW, while stationed at Shaw AFB. Visible were the handle-shaped AN/ALR-20 antennas mounted on both sides of the engine nacelle pylons. Tail code of "JN" and aircraft serial were in white with TAC insignia on both sides of the vertical fin. The camouflage pattern, consisting of F.S. 30219 Desert Drab, F.S. 34079 Shadow Green, F.S. 34102 dark green, and F.S. 36622 gray was standard Vietnam-era.*



▲ ***Douglas RB-66B-DL, 55-387**, in bare metal with later standard USAF markings. The nose radome, anti-glare panels, and rudder trailing edges were all F.S. 37038 flat black, while the vertical fin tip and ventral radome were approximately F.S. 37886 flat white. The wingtip mounted antenna pods were F.S. 17875 gloss white with bare metal trim and F.S. 17038 black noses. Noteworthy were the red nacelle warning stripes and the absence of standard ejection seat warning placards on the fuselage.*

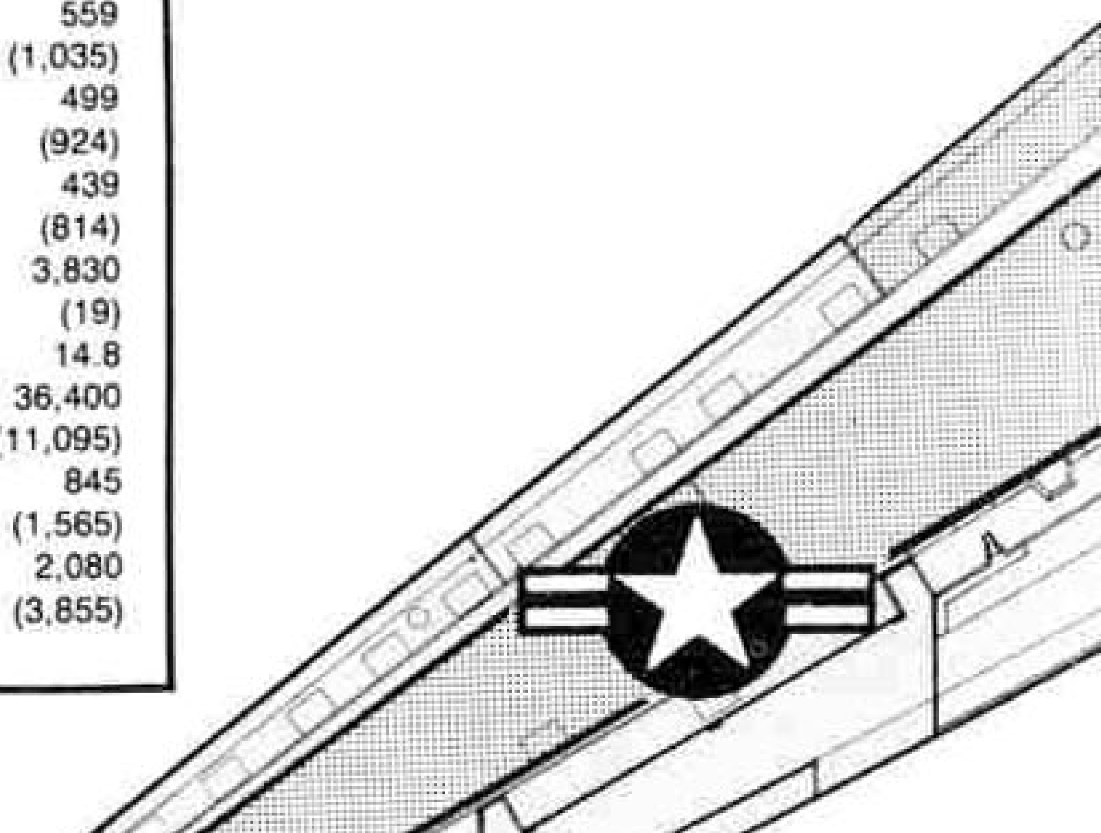
DOUGLAS WB-66D, 55-391

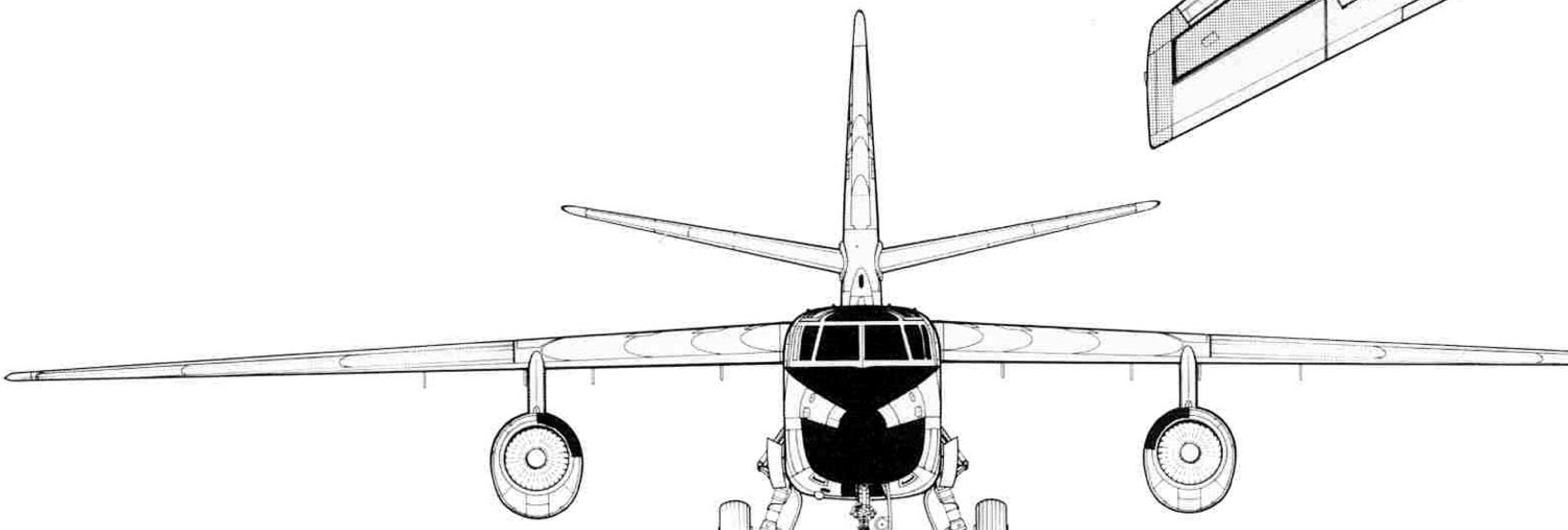
***Douglas WB-66D-DL, 55-391**, in bare metal with standard USAF markings for type. The nose radome, rudder trailing edge, and aircraft code, "WB-2", were F.S. 17038 black. The nacelle warning stripes were F.S. 11136 red. The wing walkway lines and the upper inboard quadrant of each engine nacelle were painted F.S. 17038 black. The latter served as anti-glare panels. Noteworthy was the absence of fuselage ejection seat warning placards. This aircraft later was given a Vietnam-era camouflage and assigned a "JN" tail code (which was, like its serial number, painted in white). At the time, it was assigned to the 363rd TRW at Shaw AFB.*



SPECIFICATIONS AND PERFORMANCE:

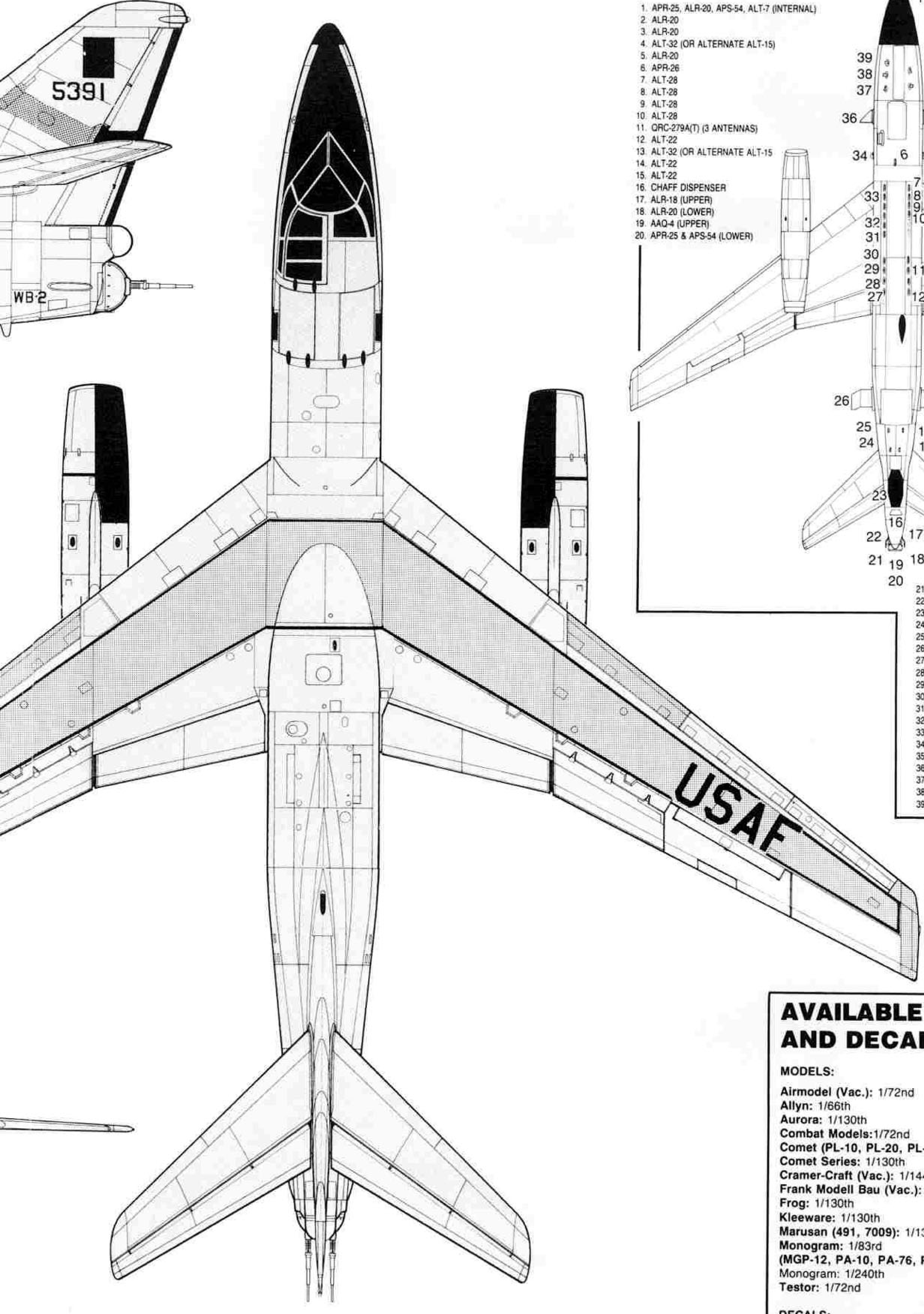
	B-66B	RB-66C	WB-66D
DIMENSIONS:			
Span, ft.	72.5	74.5	72.5
(m.)	(22.10)	(22.71)	(22.10)
Length/length with probe, ft.	75.2/80.2	75.2/80.2	75.2/80.2
(m.)	(22.92/24.44)	(22.92/24.44)	(22.92/24.44)
Height, ft.	23.6	23.6	23.6
(m.)	(7.19)	(7.19)	(7.19)
Wheel base, ft.	27.6	27.6	27.6
(m.)	(8.41)	(8.41)	(8.41)
Wheel track, ft.	10.8	10.8	10.8
(m.)	(3.30)	(3.30)	(3.30)
Wing area, sq. ft.	780	781	780
(m^2)	(72.46)	(72.56)	(72.46)
WEIGHTS AND LOADINGS:			
Empty weight, lb.	42,549	44,771	43,106
(kg.)	(19,300)	(20,308)	(19,553)
Combat weight, lb.	57,800	65,360	63,300
(kg.)	(26,218)	(29,647)	(28,712)
Max. T.O. weight, lb.	83,000	83,000	83,000
(kg.)	(37,648)	(37,648)	(37,648)
Max. landing weight, lb.	83,000	83,000	83,000
(kg.)	(37,648)	(37,648)	(37,648)
Power loading at combat wt., lb./lb. st.	2.83	3.20	3.10
(kg./kg. st.)	(2.83)	(3.20)	(3.10)
Max. power loading, lb./lb. st.	4.07	4.07	4.07
(kg./kg. st.)	(4.07)	(4.07)	(4.07)
Wing loading at combat wt., lb./sq. ft.	74.1	83.7	81.2
(kg./m^2)	(361.8)	(408.6)	(396.2)
Max. wing loading, lb./sq. ft.	106.4	106.3	106.4
(kg./m^2)	(519.6)	(518.0)	(519.6)
PERFORMANCE:			
Max. speed at S.L., kn.	548	557	559
(km./h.)	(1,016)	(1,032)	(1,035)
Max. speed at 35,000 ft., kn.	501	489	499
(km./h. at 10,670 m.)	(928)	(906)	(924)
Cruising speed at 35,000 ft.	459	444	439
(km./h. at 10,670 m.)	(851)	(822)	(814)
Initial climb rate, ft./min.	3,530	3,860	3,830
(m/sec.)	(18)	(20)	(19)
Time to 30,000 ft. (9,145 m.), min	16.5	14.8	14.8
Service ceiling, ft.	36,500	35,700	36,400
(m.)	(11,125)	(10,880)	(11,095)
Combat radius, naut. miles	785	945	845
(km.)	(1,450)	(1,750)	(1,565)
Ferry range, naut. miles	2,145	1,935	2,080
(km.)	(3,975)	(3,585)	(3,855)





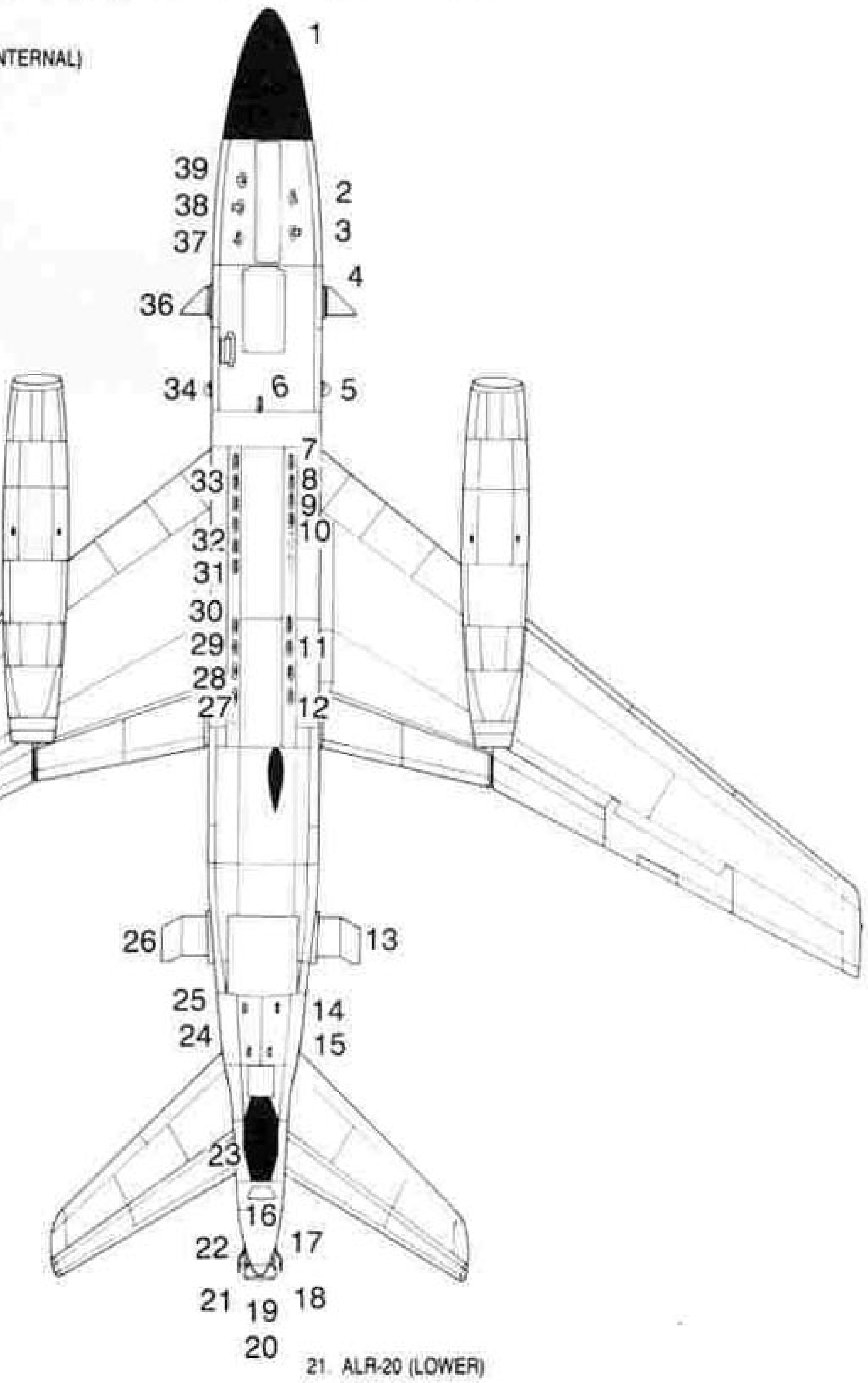
Scale: 1/72nd

Drawn by Mike Wagnon



TYPICAL EB-66E ECM CONFIGURATION

(Systems, antennas, etc. may differ from aircraft to aricraft.)



1. APR-25, ALR-20, APS-54, ALT-7 (INTERNAL)
2. ALR-20
3. ALR-20
4. ALT-32 (OR ALTERNATE ALT-15)
5. ALR-20
6. APR-26
7. ALT-28
8. ALT-28
9. ALT-28
10. ALT-28
11. QRC-279A(T) (3 ANTENNAS)
12. ALT-22
13. ALT-32 (OR ALTERNATE ALT-15
14. ALT-22
15. ALT-22
16. CHAFF DISPENSER
17. ALR-18 (UPPER)
18. ALR-20 (LOWER)
19. AAQ-4 (UPPER)
20. APR-25 & APS-54 (LOWER)
21. ALR-20 (LOWER)
22. ALR-18 (UPPER)
23. ALT-6B, ALT-7, ALT-8B (INTERNALLY MOUNTED ANTENNAS)
24. ALT-22
25. ALT-22
26. ALT-32 (ALT-15 ALTERNATE)
27. ALT-6B
28. ALT-31
29. ALT-6B
30. ALT-31
31. ALT-28
32. ALT-6B
33. ALT-22 (3 ANTENNAS)
34. ALR-20
35. ALQ-59
36. ALT-32 (OR ALTERNATE ALT-15)
37. ALR-20
38. ALR-20
39. ALT-6B, OR ALT-8B

AVAILABLE SCALE MODELS AND DECALS:

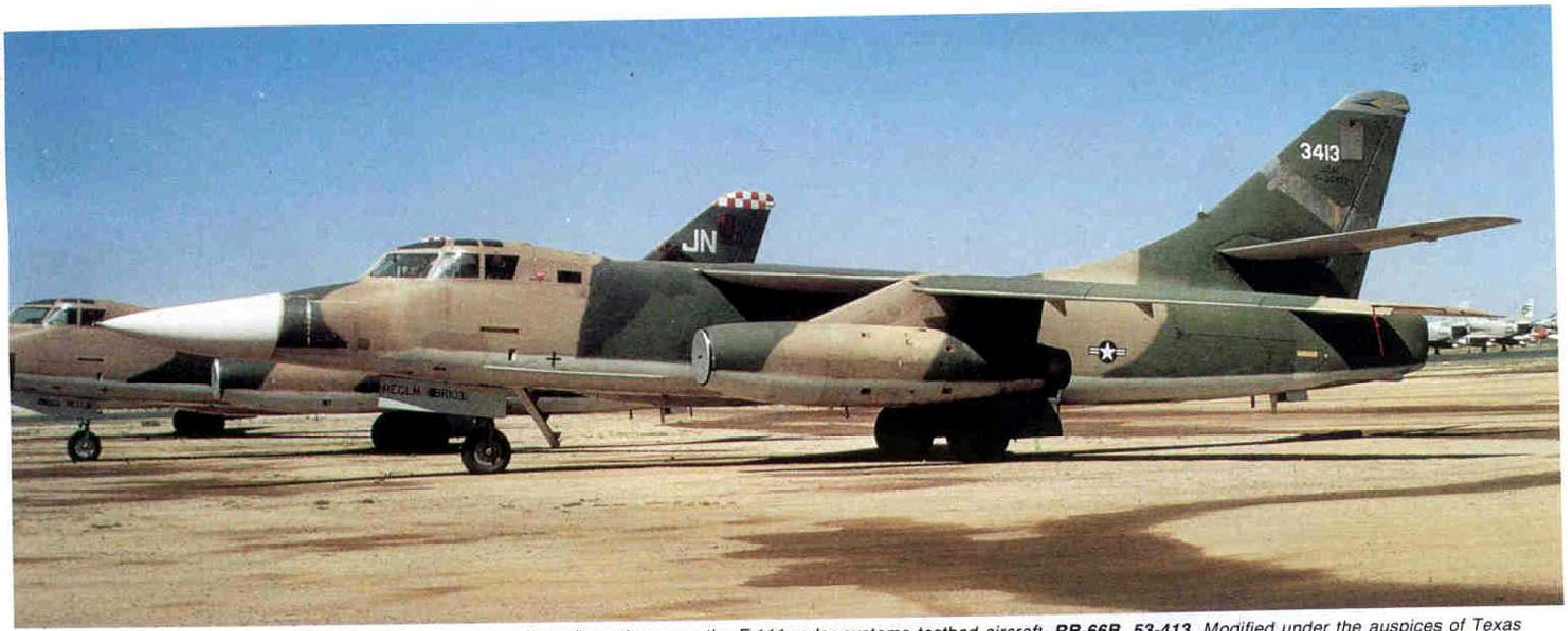
MODELS:

Airmodel (Vac.): 1/72nd	B-66
Allyn: 1/66th	RB-66
Aurora: 1/130th	B-66B
Combat Models:1/72nd	B-66
Comet (PL-10, PL-20, PL-114, PL-1418): 1/130th	B-66
Comet Series: 1/130th	B-66B
Cramer-Craft (Vac.): 1/144th	B-66
Frank Modell Bau (Vac.): 1/72nd	B-66
Frog: 1/130th	B-66B
Kleeware: 1/130th	B-66B
Marusan (491, 7009): 1/132nd	B-66
Monogram: 1/83rd **(MGP-12, PA-10, PA-76, PA-204, 6827)**	RB-66A
Monogram: 1/240th	B-66
Testor: 1/72nd	B-66

DECALS:

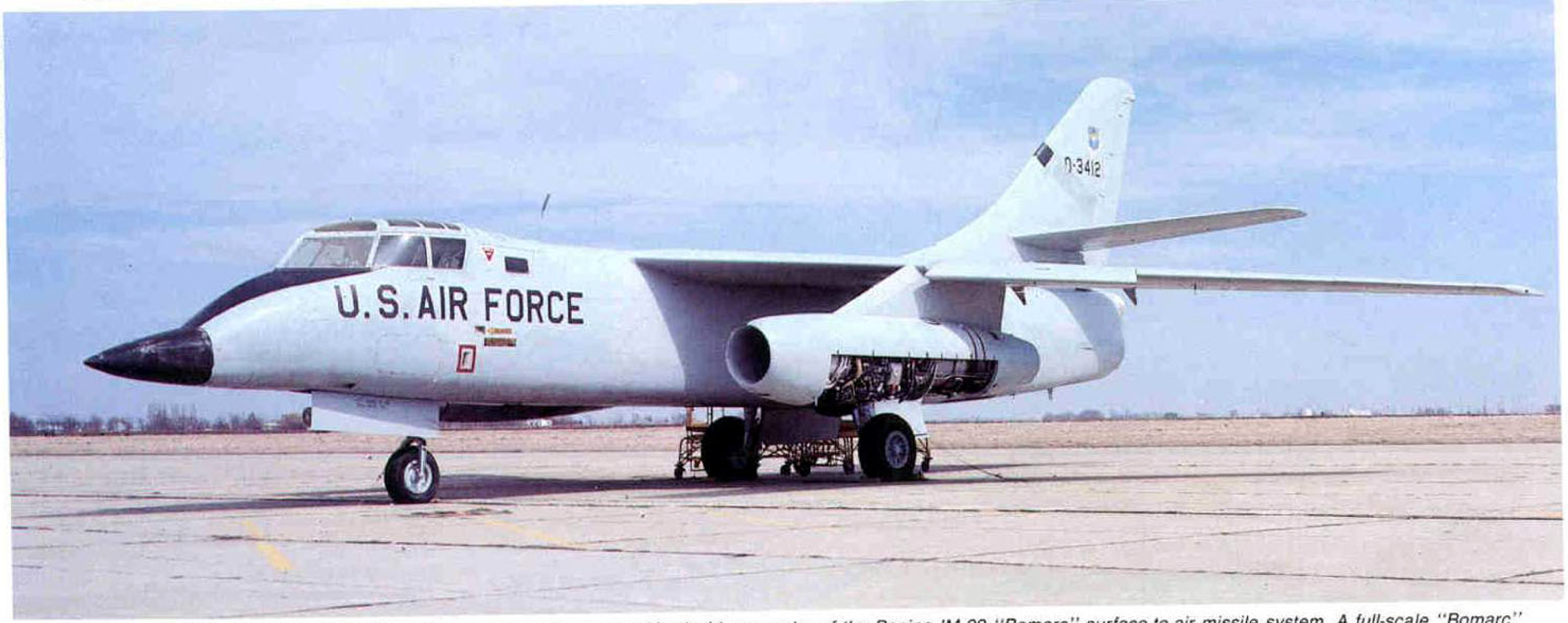
No decals other than those with kits are available at this time.

Mick Roth collection



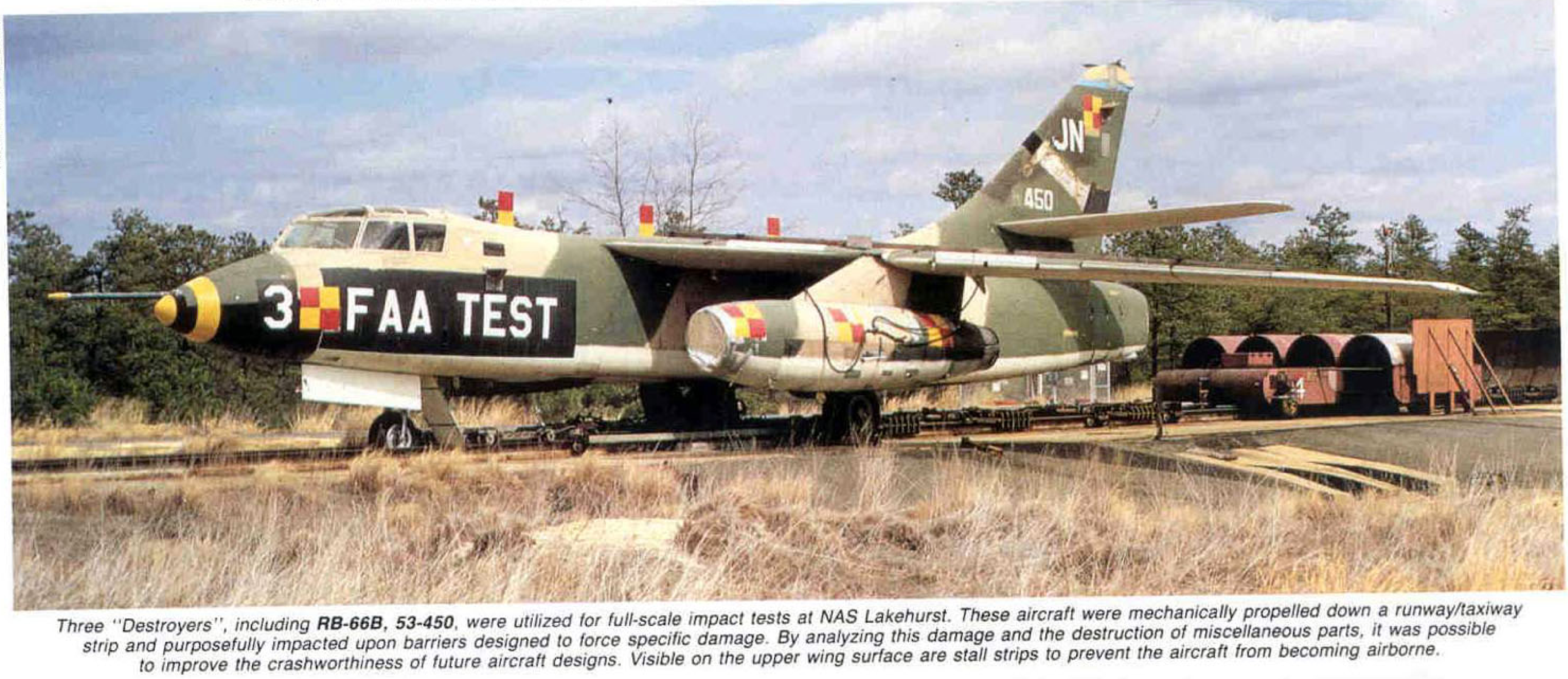
One of the least-photographed of the many "Destroyer" configurations was the F-111 radar systems testbed aircraft, **RB-66B, 53-413**. Modified under the auspices of Texas Instruments and General Precision, it accommodated test program requirements to verify various tracking and terrain following capabilities. The reason for the white coloring seen on the F-111 radome is unknown. The aircraft was photographed prior to final disposition at what then was the Military Aircraft Storage and Disposition Center.

Aerofax, Inc. collection

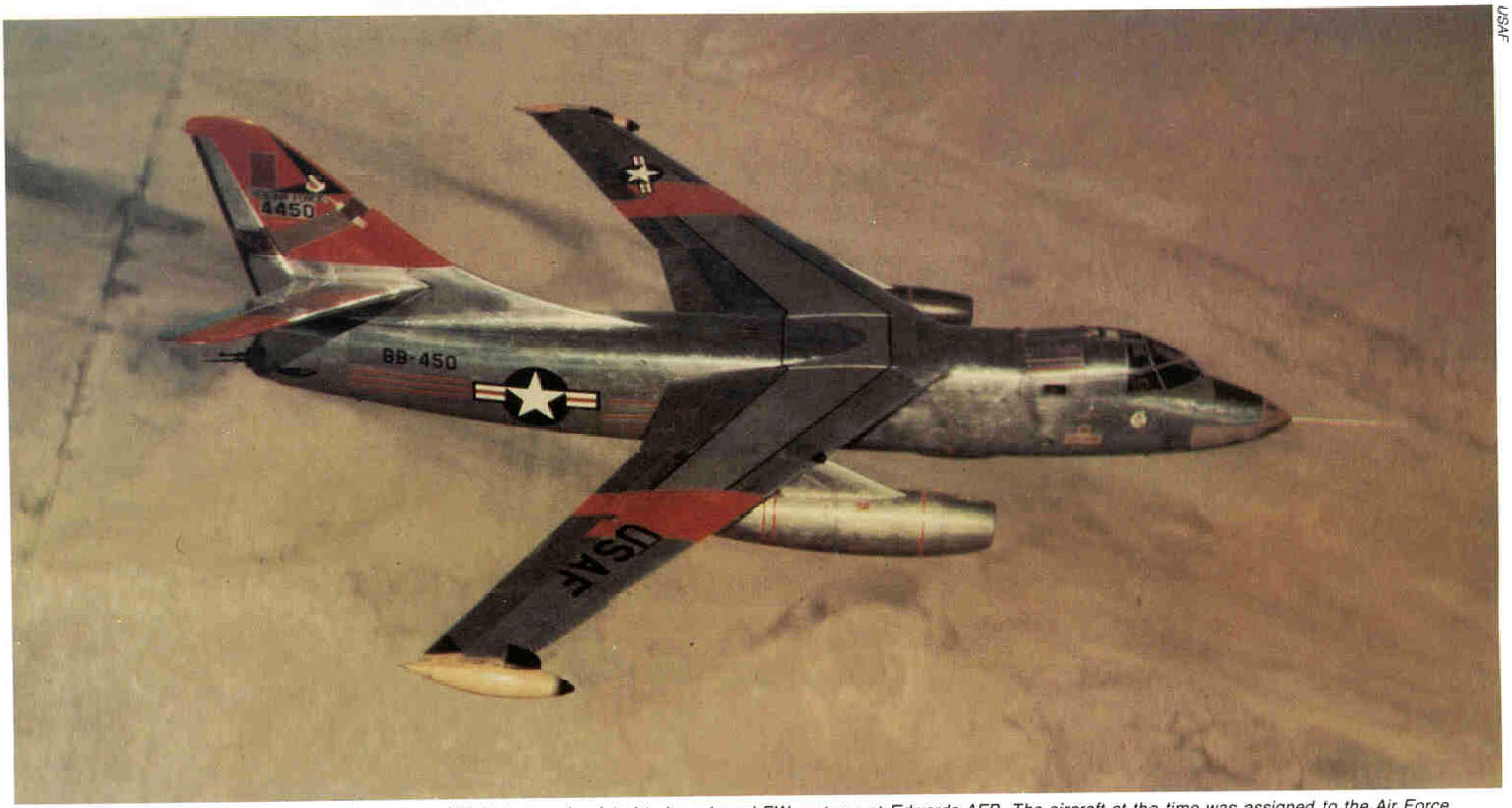


Douglas JRB-66B, 53-412, modified for use as a testbed for the tracking/guidance radar of the Boeing IM-99 "Bomarc" surface-to-air missile system. A full-scale "Bomarc" nose radome accommodated the radar dish and related subassemblies, and the associated systems avionics were mounted internally. The aircraft eventually became part of the maintenance training collection at Chanute AFB. It is seen shortly after its arrival there during March 1978.

Nick Williams collection

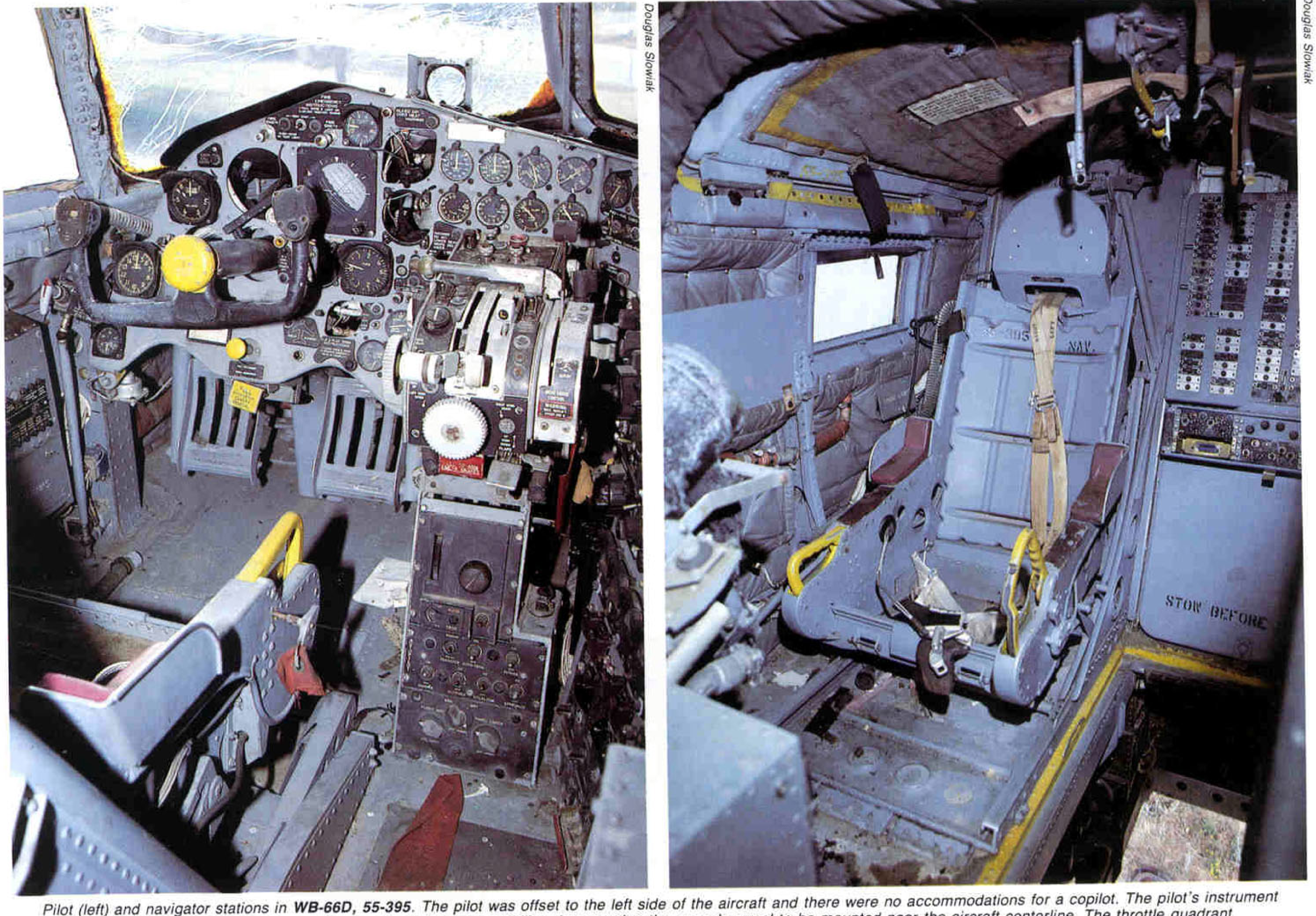


Three "Destroyers", including **RB-66B, 53-450**, were utilized for full-scale impact tests at NAS Lakehurst. These aircraft were mechanically propelled down a runway/taxiway strip and purposefully impacted upon barriers designed to force specific damage. By analyzing this damage and the destruction of miscellaneous parts, it was possible to improve the crashworthiness of future aircraft designs. Visible on the upper wing surface are stall strips to prevent the aircraft from becoming airborne.



USAF

Douglas RB-66C, 54-450, during the course of flight test work related to its onboard EW systems at Edwards AFB. The aircraft at the time was assigned to the Air Force Flight Test Center and the Air Force Systems Command. Besides its early EW suite, modifications to this aircraft included what appears to be dielectric forward fairings between the wingtip leading edges and the wingtip antenna pods, and the simple nose pitot boom. Functioning tail gun is noteworthy.

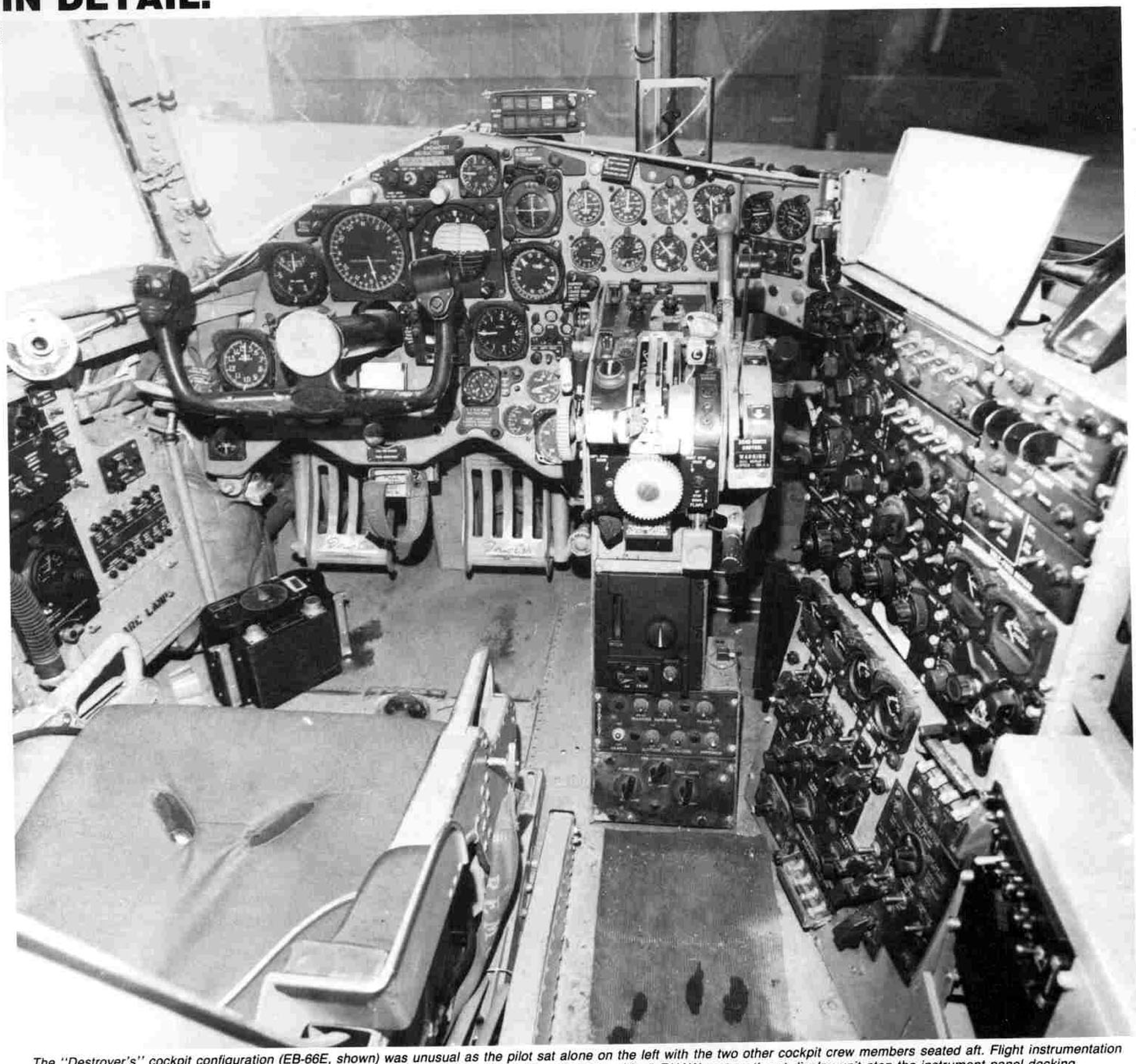


Douglas Slowiak

Douglas Slowiak

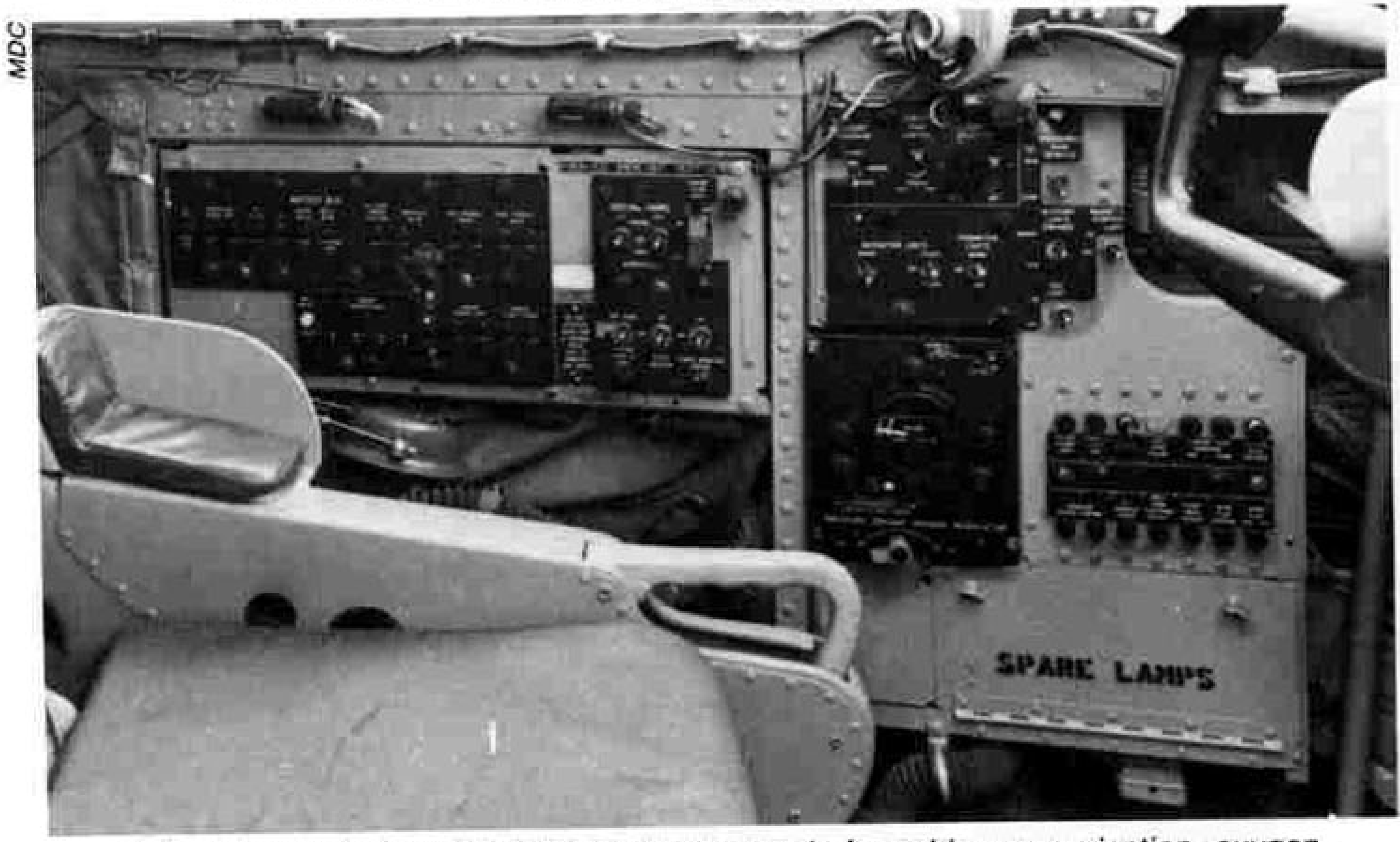
Pilot (left) and navigator stations in **WB-66D, 55-395**. The pilot was offset to the left side of the aircraft and there were no accommodations for a copilot. The pilot's instrument panel and right-side console panel were situated for accessibility, thus causing the console panel to be mounted near the aircraft centerline. The throttle quadrant was mounted between the console panel and the instrument panel. In the WB-66D, the navigator's station was to the right and rear of the pilot.

MDC



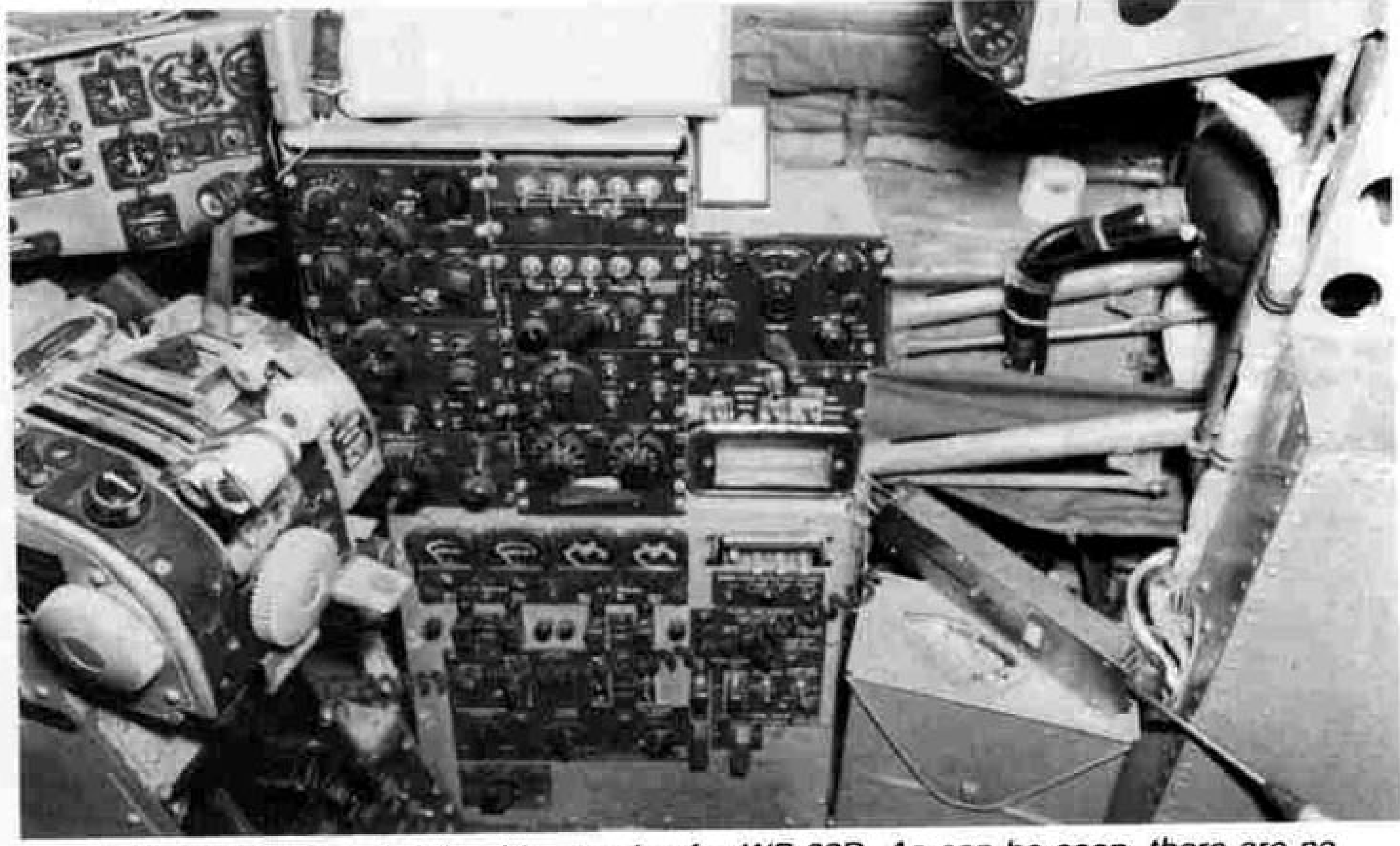
The "Destroyer's" cockpit configuration (EB-66E, shown) was unusual as the pilot sat alone on the left with the two other cockpit crew members seated aft. Flight instrumentation was grouped on the panel immediately in front of the pilot's seat with an APR-25/-26 (qualified) RHAW system threat display unit atop the instrument panel decking. The center-mounted console grouped the throttles, flap and drag chute handles, emergency brake, and autopilot so they could be easily reached by the pilot.

MDC

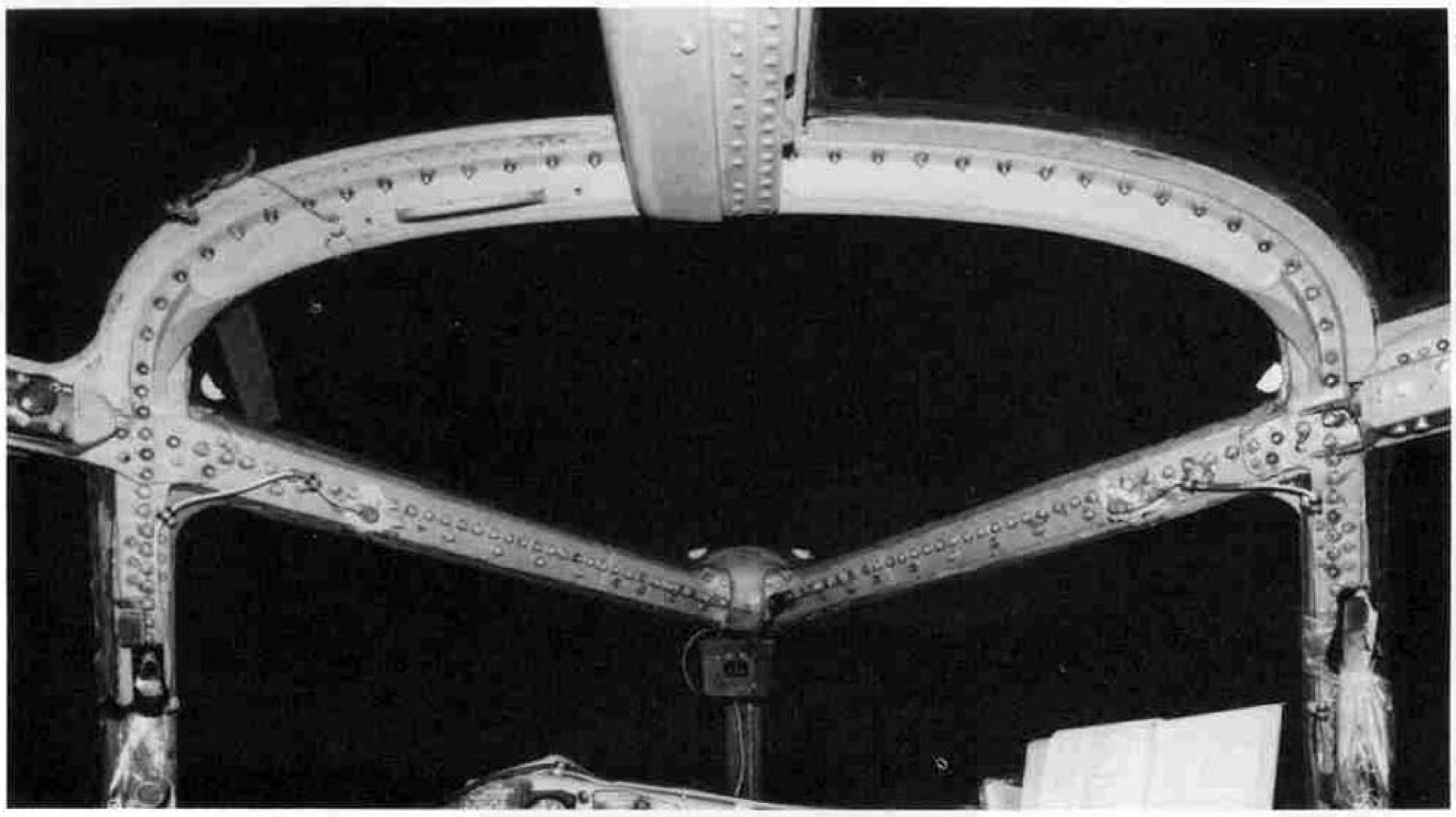


Left side panel of an EB-66B provided controls for cabin pressurization, oxygen, cabin heating, switches for navigation and formation lights, and the battery bus panel. Cooling air nozzle is visible to the right.

MDC



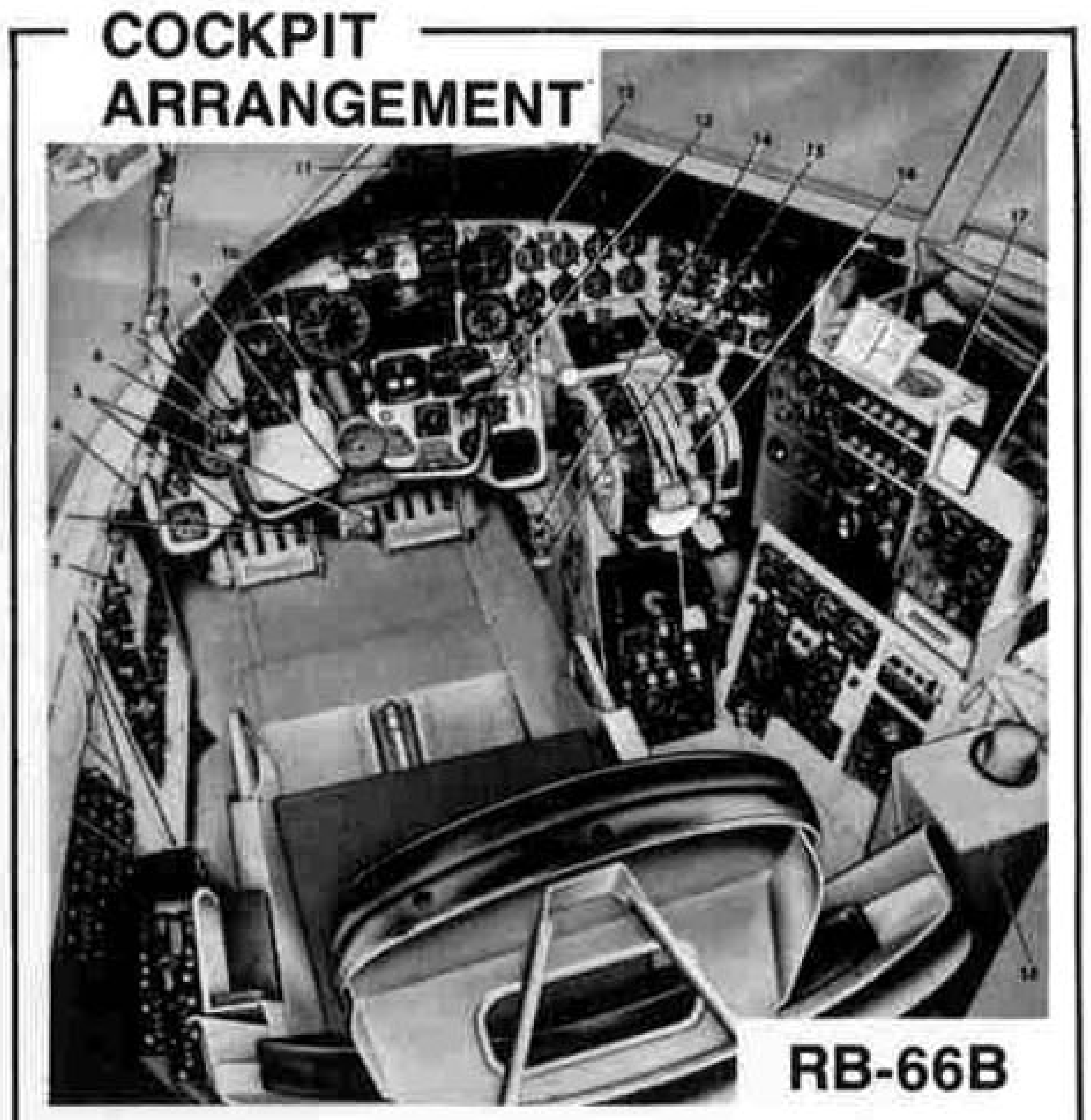
Center console and right side panels of a WB-66D. As can be seen, there are no accommodations for a right seat. Visible to the upper right is the navigator's swinging auxiliary panel, seen rotated away from the navigation station.



MDC

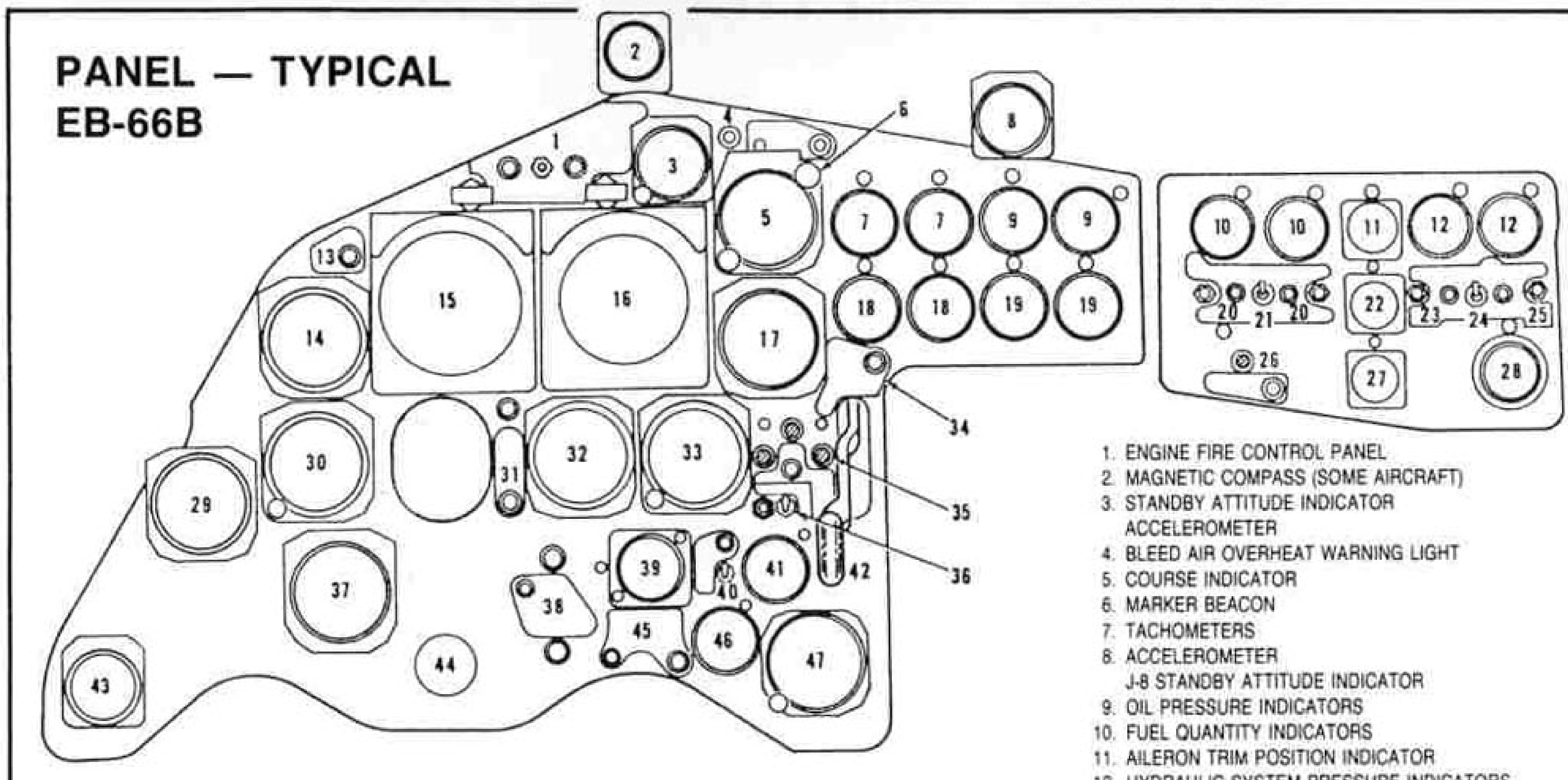
Interior view of typical "Destroyer" windscreen framing. The pilot's outside visibility from his seat was simply outstanding due to the large size of the various transparencies. The magnetic compass can be seen mounted at the intersection of the forward vertical and horizontal frame assemblies.

COCKPIT ARRANGEMENT

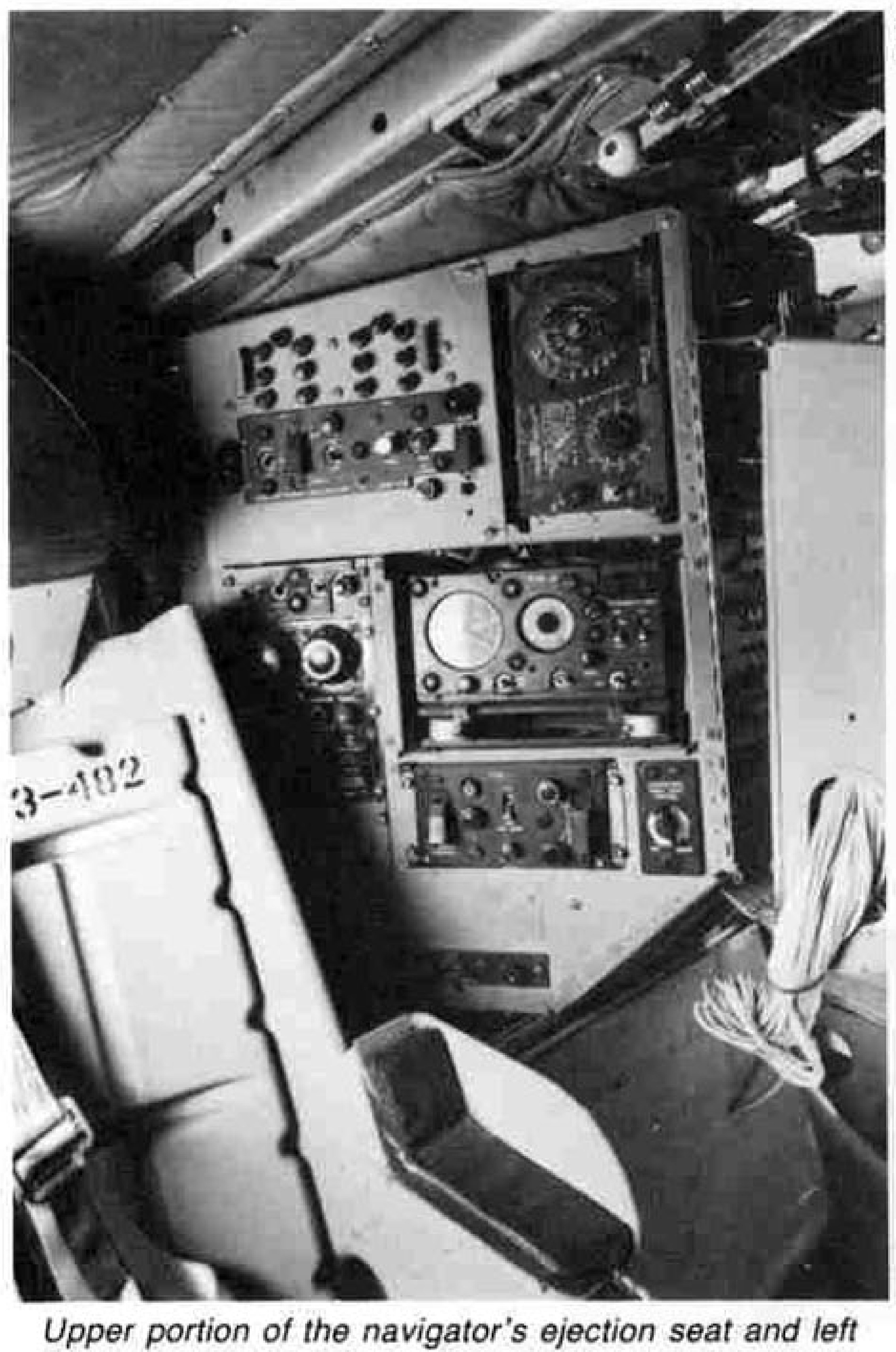


1. PILOT'S LEFT CONSOLE
2. LEFT FORWARD CONSOLE
3. EMERGENCY CANOPY HATCH REMOVAL HANDLE
4. NOSE WHEEL STEERING RANGE SELECTOR HANDLE
5. RUDDER PANELS
6. HORIZONTAL STABILIZER TRIM CONTROL SWITCH
7. AUTOPILOT ELECTRICAL RELEASE SWITCH
8. INTERPHONE AND RADIO COMMUNICATIONS MICROPHONE SWITCH
9. CONTROL WHEEL
10. AUTOPILOT EMERGENCY RELEASE SWITCH
11. MAGNETIC COMPASS
12. MAIN INSTRUMENT PANEL
13. ROGER BUTTON
14. PARKING BRAKE HANDLE
15. PILOT'S FOOT WARMER CONTROL HANDLE
16. CONTROL PEDESTAL
17. PILOT'S RIGHT CONSOLE
18. DATA CASE AND THERMAL BOTTLE

PANEL — TYPICAL EB-66B

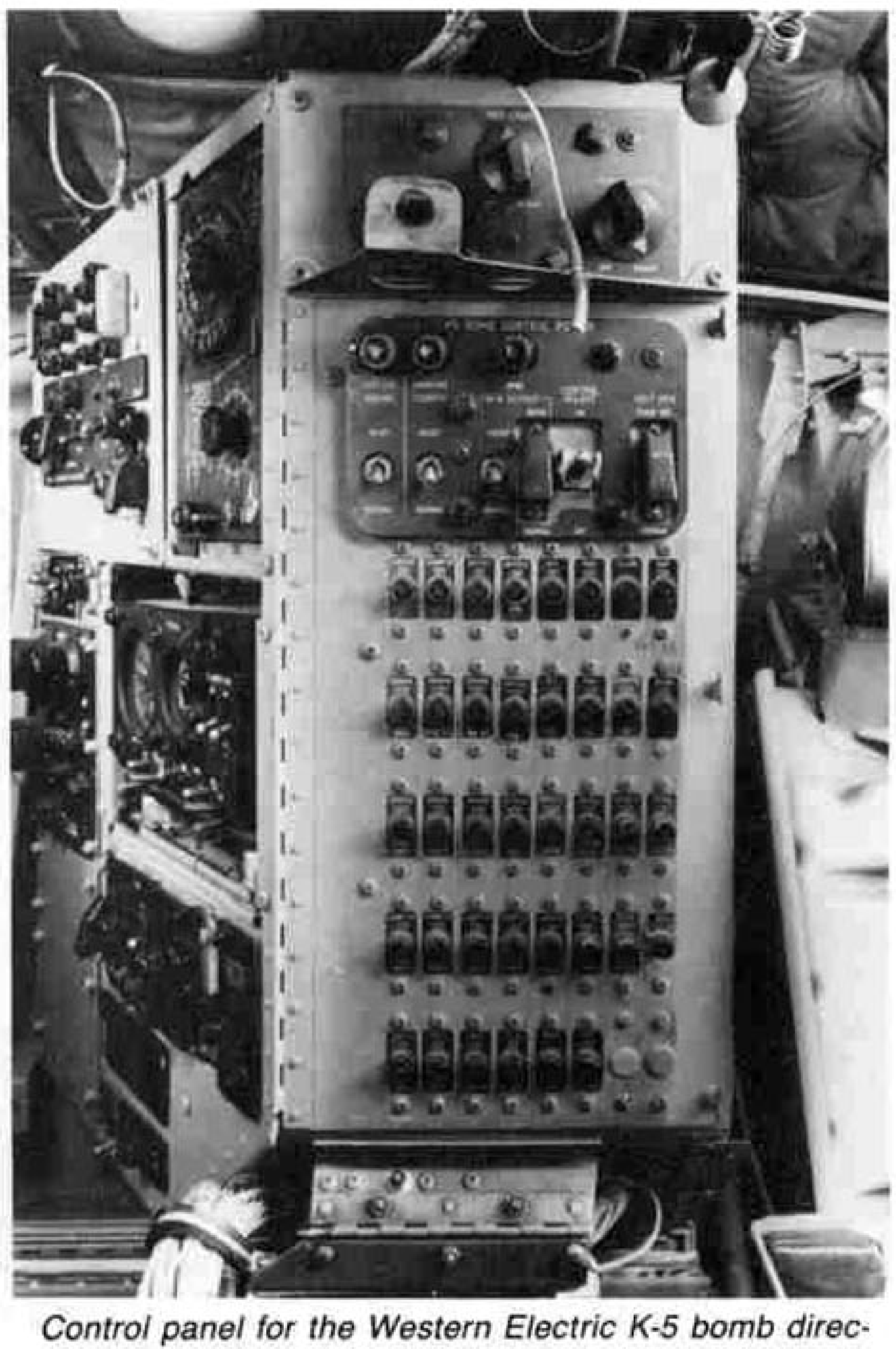


1. ENGINE FIRE CONTROL PANEL
2. MAGNETIC COMPASS (SOME AIRCRAFT)
3. STANDBY ATTITUDE INDICATOR ACCELEROMETER
4. BLEED AIR OVERHEAT WARNING LIGHT
5. COURSE INDICATOR
6. MARKER BEACON
7. TACHOMETERS
8. ACCELEROMETER J-8 STANDBY ATTITUDE INDICATOR
9. OIL PRESSURE INDICATORS
10. FUEL QUANTITY INDICATORS
11. AILERON TRIM POSITION INDICATOR
12. HYDRAULIC SYSTEM PRESSURE INDICATORS
13. PILOT'S RADIO CALL NUMBER
14. AIRSPEED INDICATOR
15. HEADING INDICATOR (COMPASS REPEATER)
16. ATTITUDE INDICATOR
17. BEARING DISTANCE HEADING INDICATOR (BDHI)
18. EXHAUST GAS TEMPERATURE INDICATORS
19. FUEL FLOW INDICATORS
20. FUEL QUANTITY TEST SWITCHES
21. FUEL QUANTITY SELECTOR SWITCHES
22. RUDDER TRIM POSITION INDICATOR
23. RUDDER BOOST PRESSURE INDICATOR LIGHT (AMBER)
24. HYDRAULIC SYSTEM PRESSURE INDICATOR SELECTOR SWITCH
25. RUDDER BOOST PRESSURE WARNING LIGHT (RED)
26. TURRET UNLOCKED INDICATOR
27. HORIZONTAL STABILIZER (ELEVATOR) TRIM POSITION INDICATOR
28. OXYGEN QUANTITY INDICATOR
29. MACH INDICATOR
30. ALTIMETER
31. N-1 COMPASS POWER-OFF WARNING LIGHT
32. TURN-AND-SLIP INDICATOR
33. VERTICAL VELOCITY INDICATOR
34. LANDING GEAR PLACARD
35. LANDING GEAR POSITION INDICATORS
36. ANTI-SKID SYSTEM SWITCH AND INDICATOR LIGHT
37. STEERING AND TIME-TO-GO INDICATOR ID-341 GROUND SPEED INDICATOR
38. RADAR WARNING INDICATOR (AN/APS-54)
39. CLOCK
40. LANDING GEAR LIGHT TEST AND HORN CUTOFF SWITCH
41. WING FLAP POSITION INDICATOR
42. LANDING GEAR LEVER AND WARNING LIGHT
43. FLIGHT COMPARTMENT PRESSURE ALTITUDE INDICATOR
44. RUDDER PEDAL ADJUSTMENT RELEASE KNOB
45. LANDING GEAR AND WING FLAP EMERGENCY INSTRUCTIONS
46. FREE AIR TEMPERATURE INDICATOR
47. TRUE AIR SPEED INDICATOR (SOME AIRCRAFT)



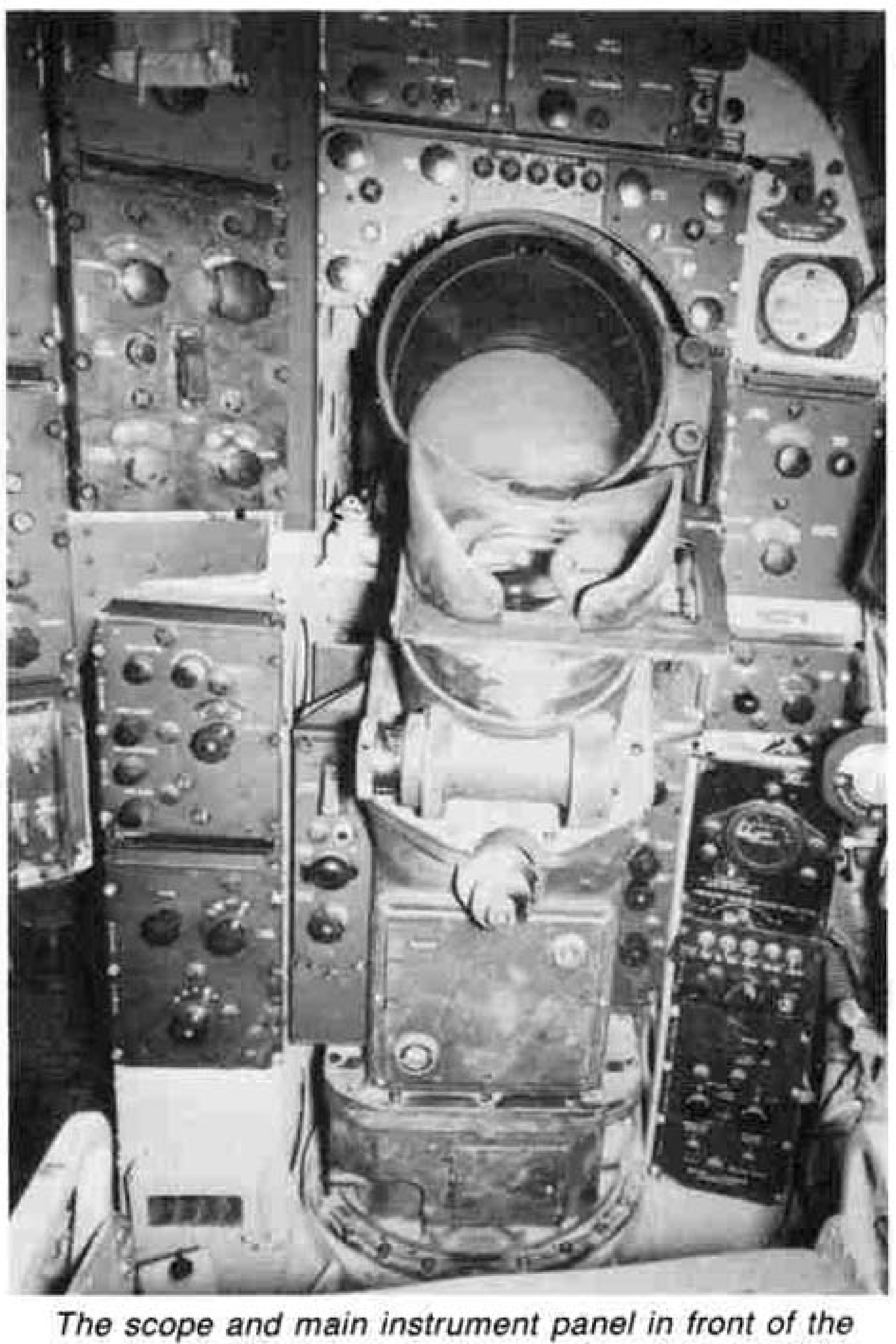
MDC

Upper portion of the navigator's ejection seat and left side console of an EB-66B. Except for straps and small head and elbow pads, the seat was all metal.



MDC

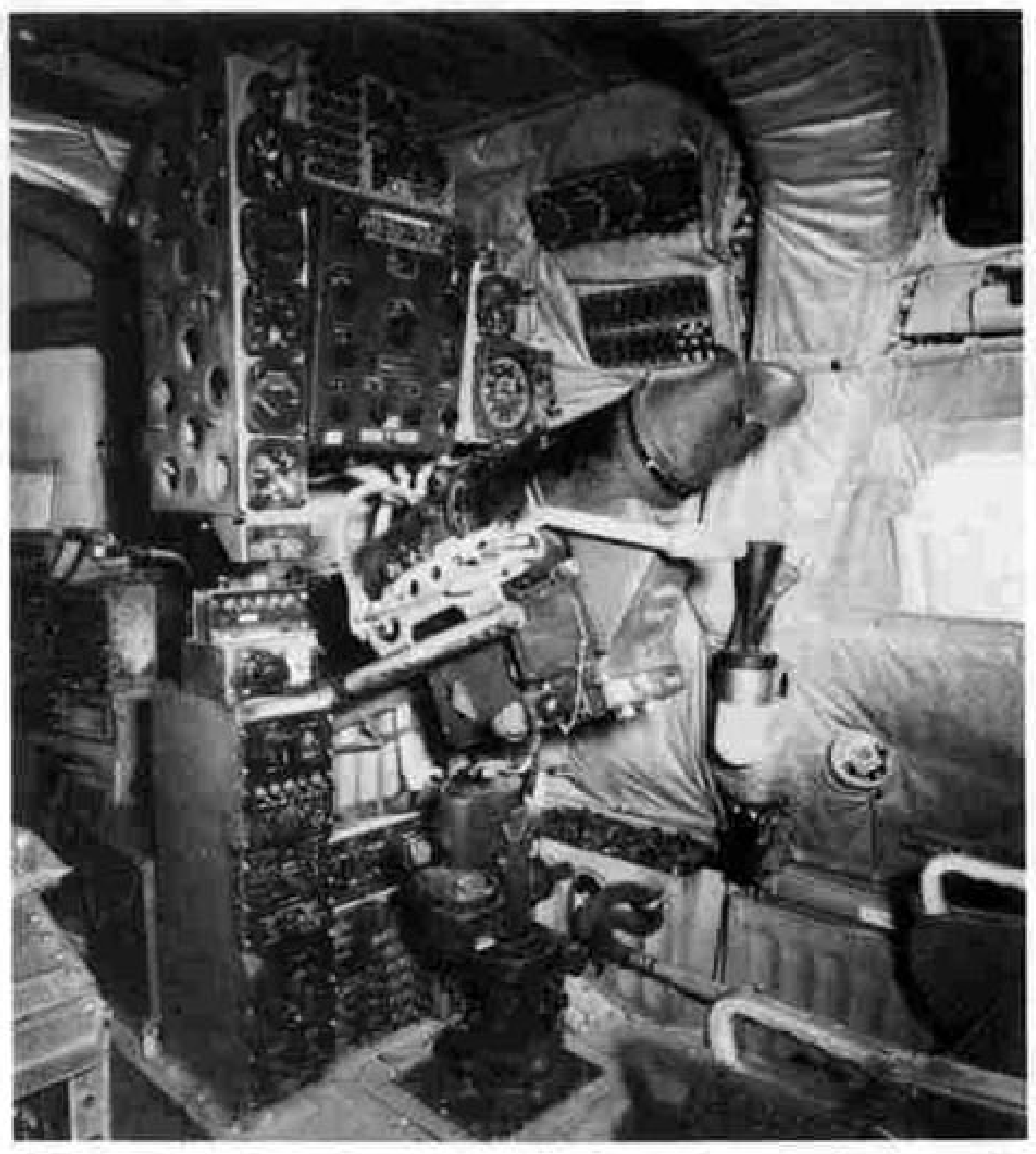
Control panel for the Western Electric K-5 bomb director system of the B-66B/EB-66B was located between the gunner's (left) and the navigator's (right) stations.



MDC

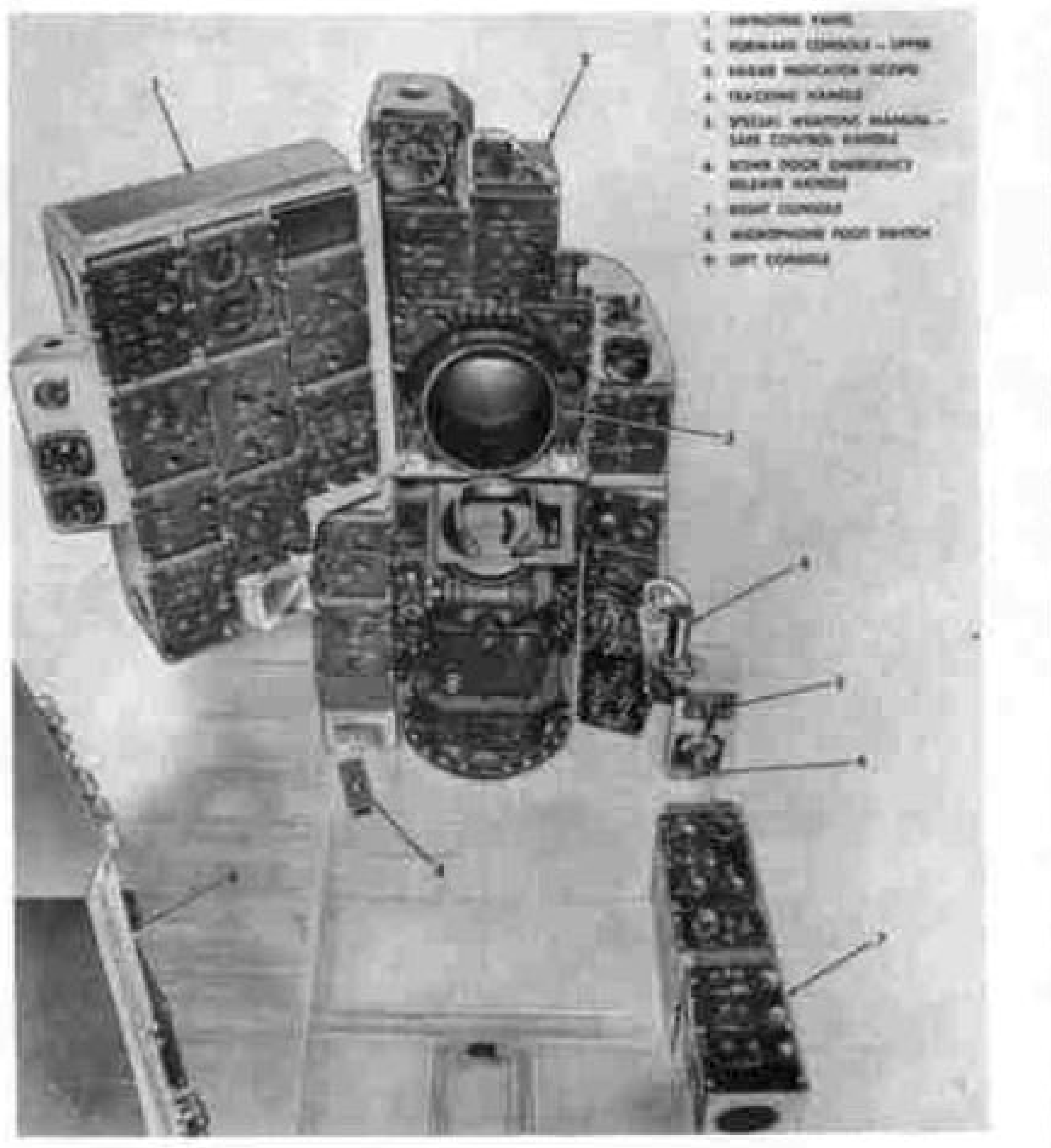
The scope and main instrument panel in front of the navigator's seat on the aft right side of the EB-66B cockpit. Radar control handle is visible on the right.

MDC

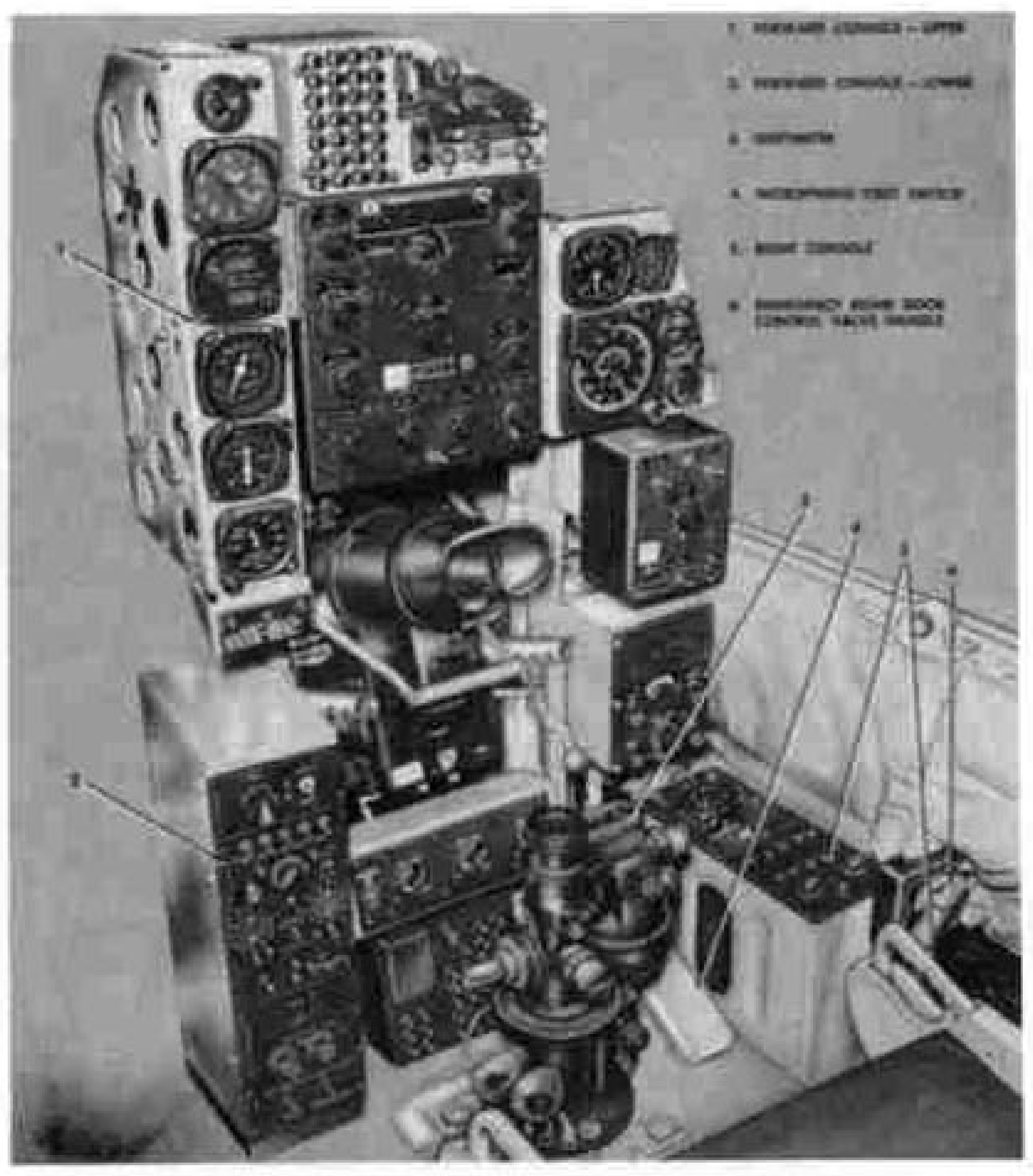


RB-66B navigator's station. Navigator's swinging panel is visible rotated aft to its normal position. Scope could be retracted into panel for stowage.

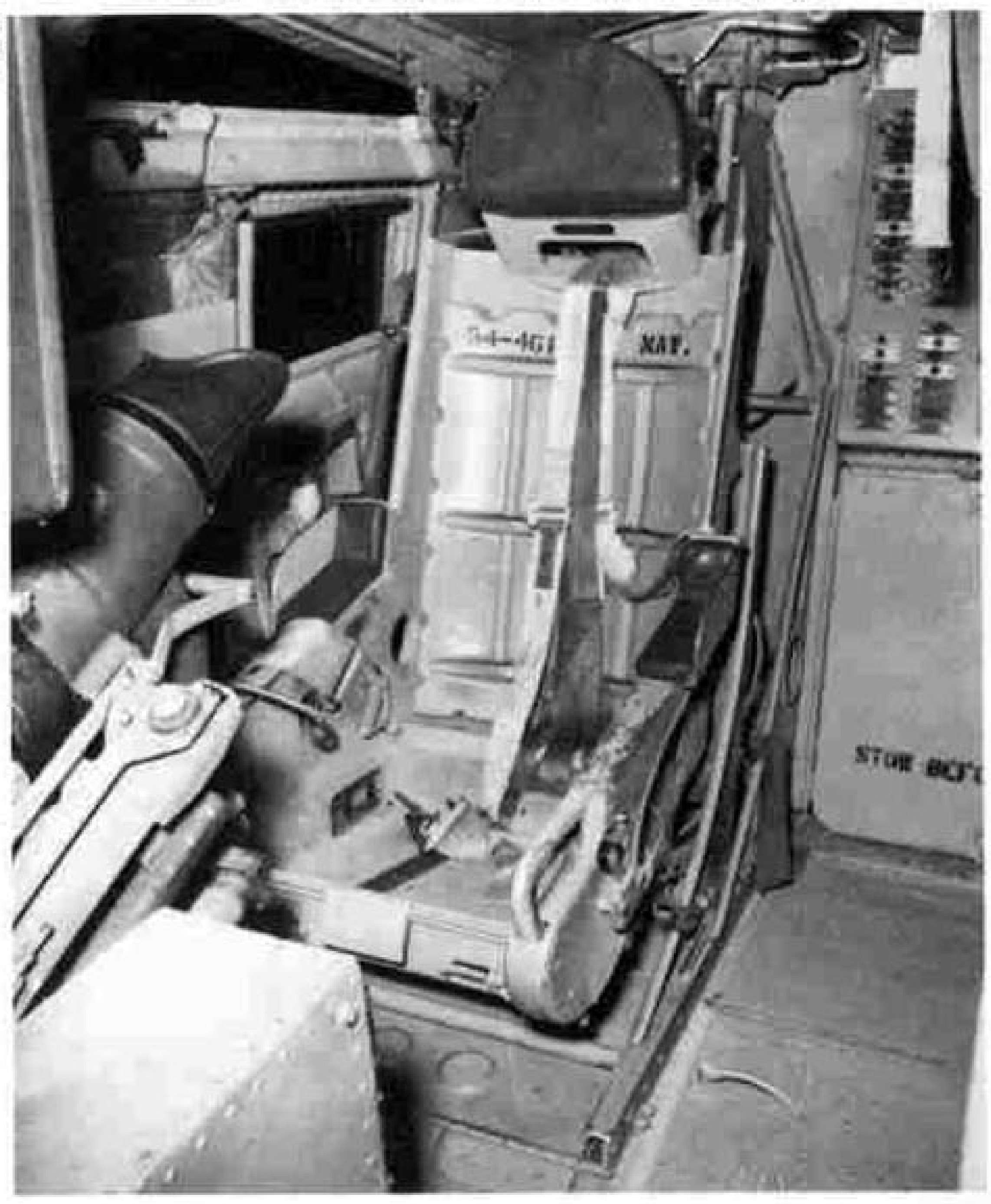
NAVIGATOR'S STATION B-66B/EB-66B


2 FORWARD CONSOLE – UPPER
3 RADAR INDICATOR SCOPE
4 TRACKING HANDLE
5 SPECIAL WEAPONS MANUAL – SAFE CONTROL HANDLE
6 BOMB DOOR EMERGENCY RELEASE HANDLE
7 RIGHT CONSOLE
8 MICROPHONE FOOT SWITCH
9 LEFT CONSOLE

NAVIGATOR'S STATION RB-66B

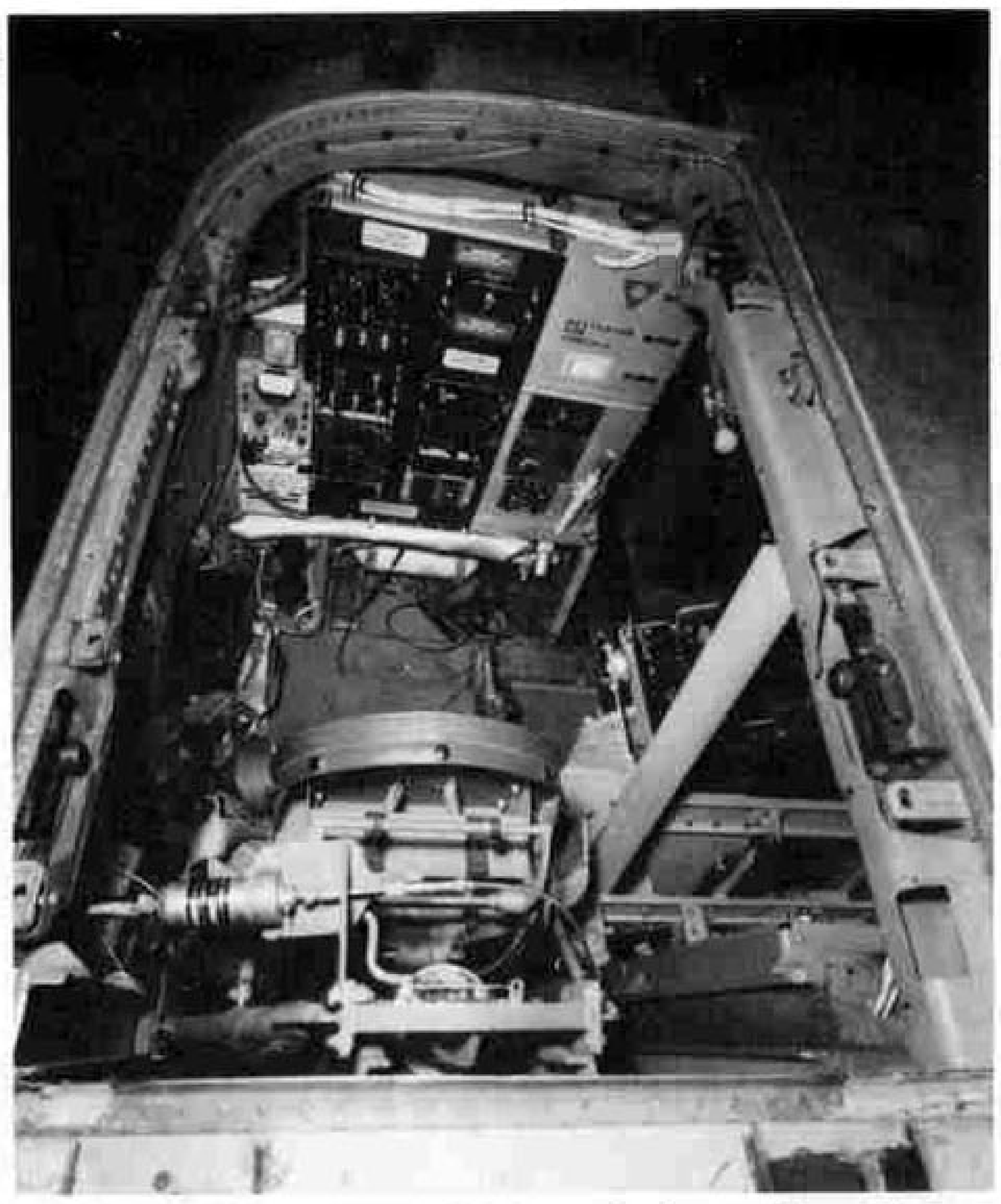

1 FORWARD CONSOLE – UPPER
2 FORWARD CONSOLE – LOWER
4 MICROPHONE FOOT SWITCH
5 RIGHT CONSOLE
6 EMERGENCY BOMB DOOR CONTROL VALVE HANDLE

MDC



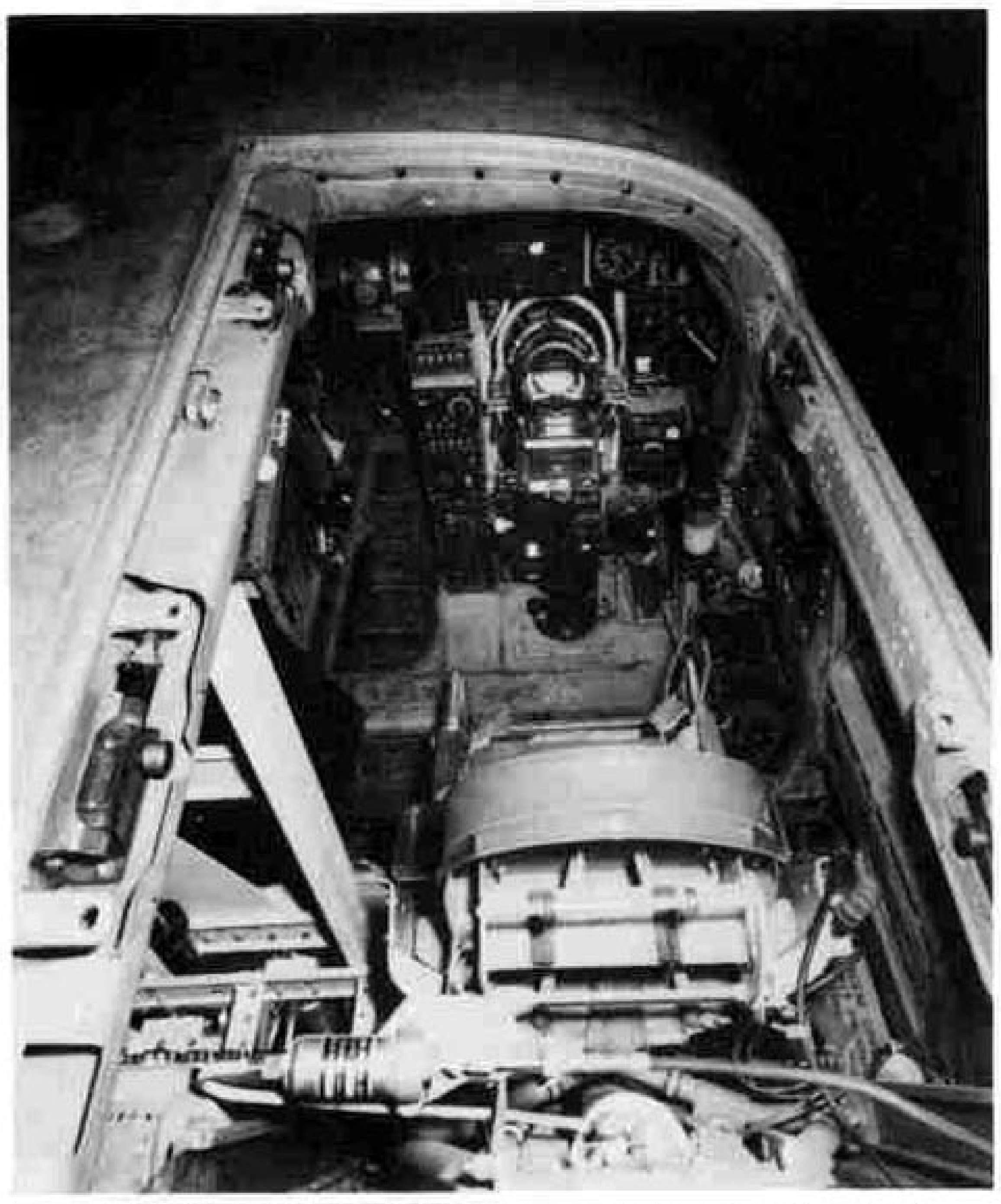
Navigator seat for EB-66C and trap door in floor which provided access to the EWO station located in the center fuselage. Trap door served as emergency exit.

MDC



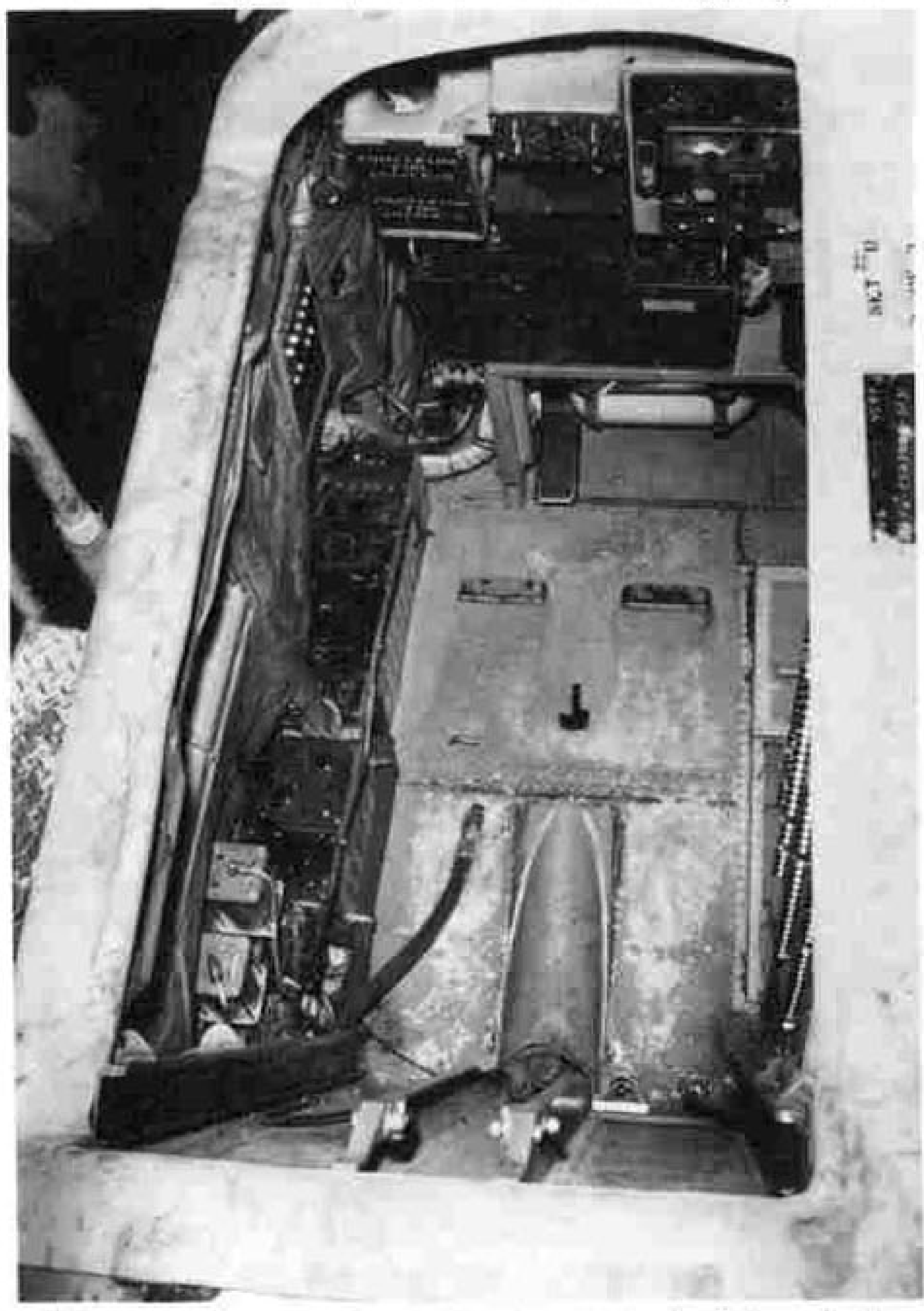
Though the purpose of this particular configuration remains unidentified, it does suffice to illustrate what normally was the navigator's position in the EB-66E.

MDC



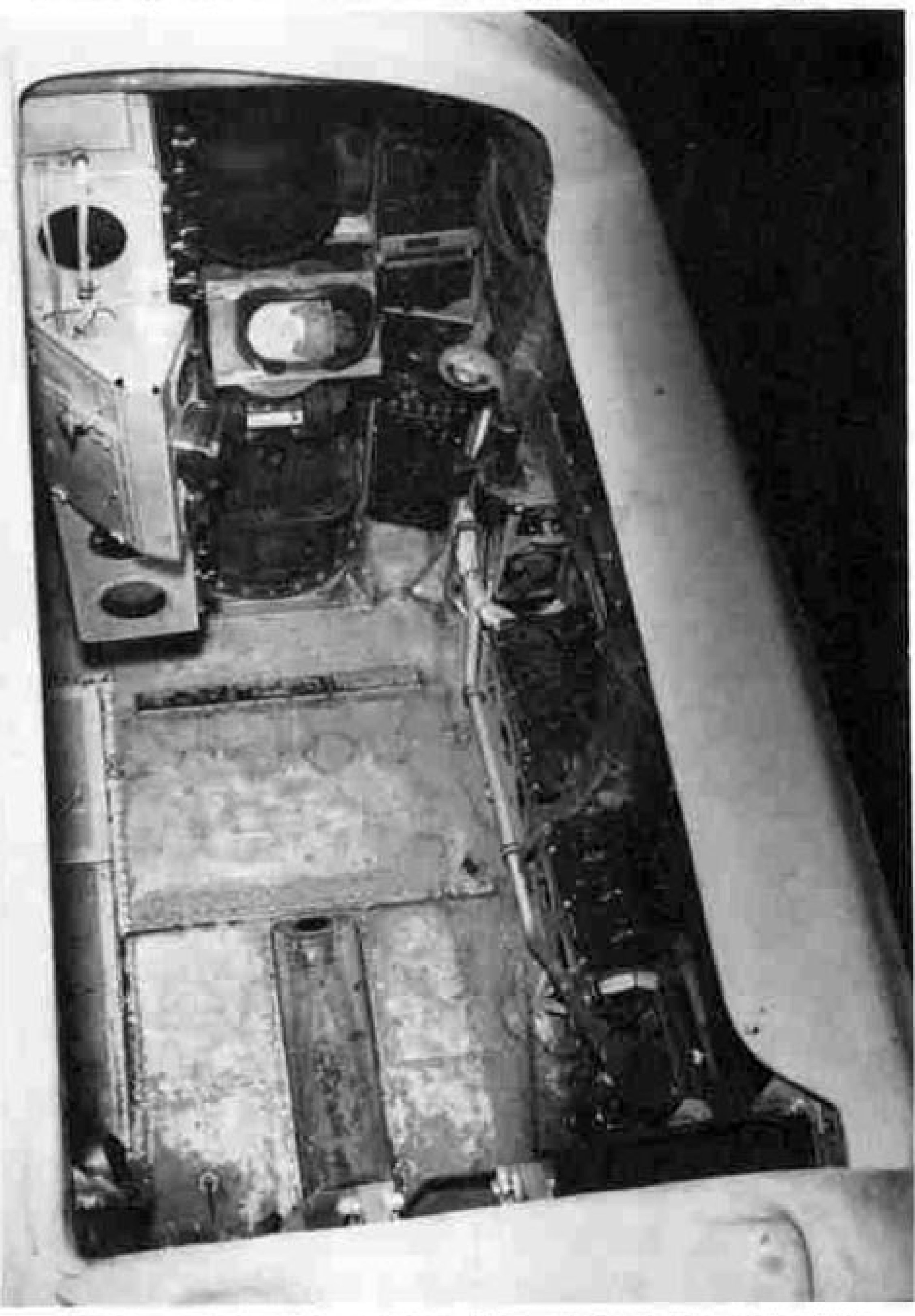
RB-66B navigator's station, seen through the open ejection hatch. Structure and "black box" to the left of the ejection seat is non-standard (possibly test).

MDC



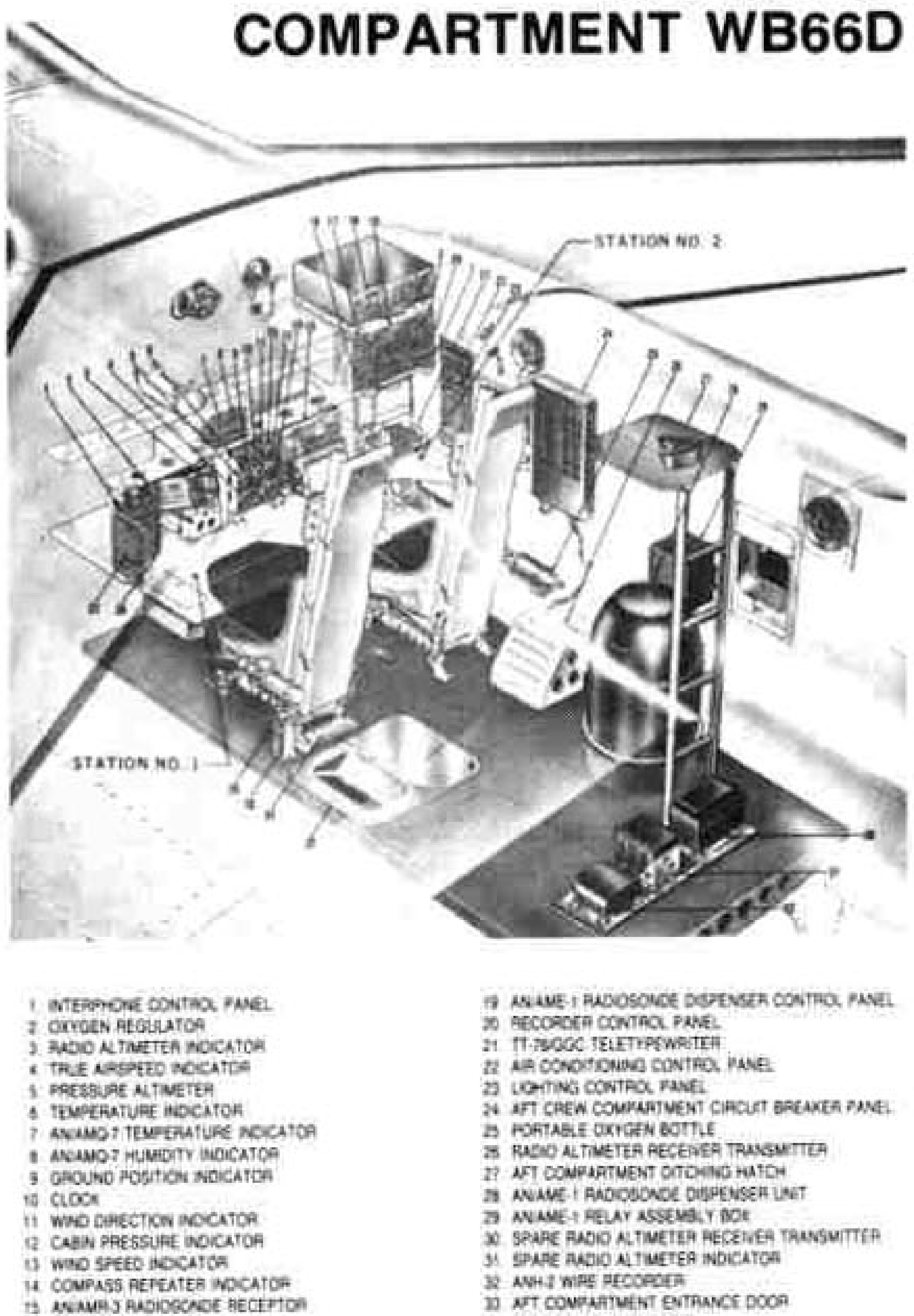
"Destroyer" gunner's station, located aft of the pilot's seat. The ejection seat has been removed and the fire control radar scope and controls are stowed.

MDC

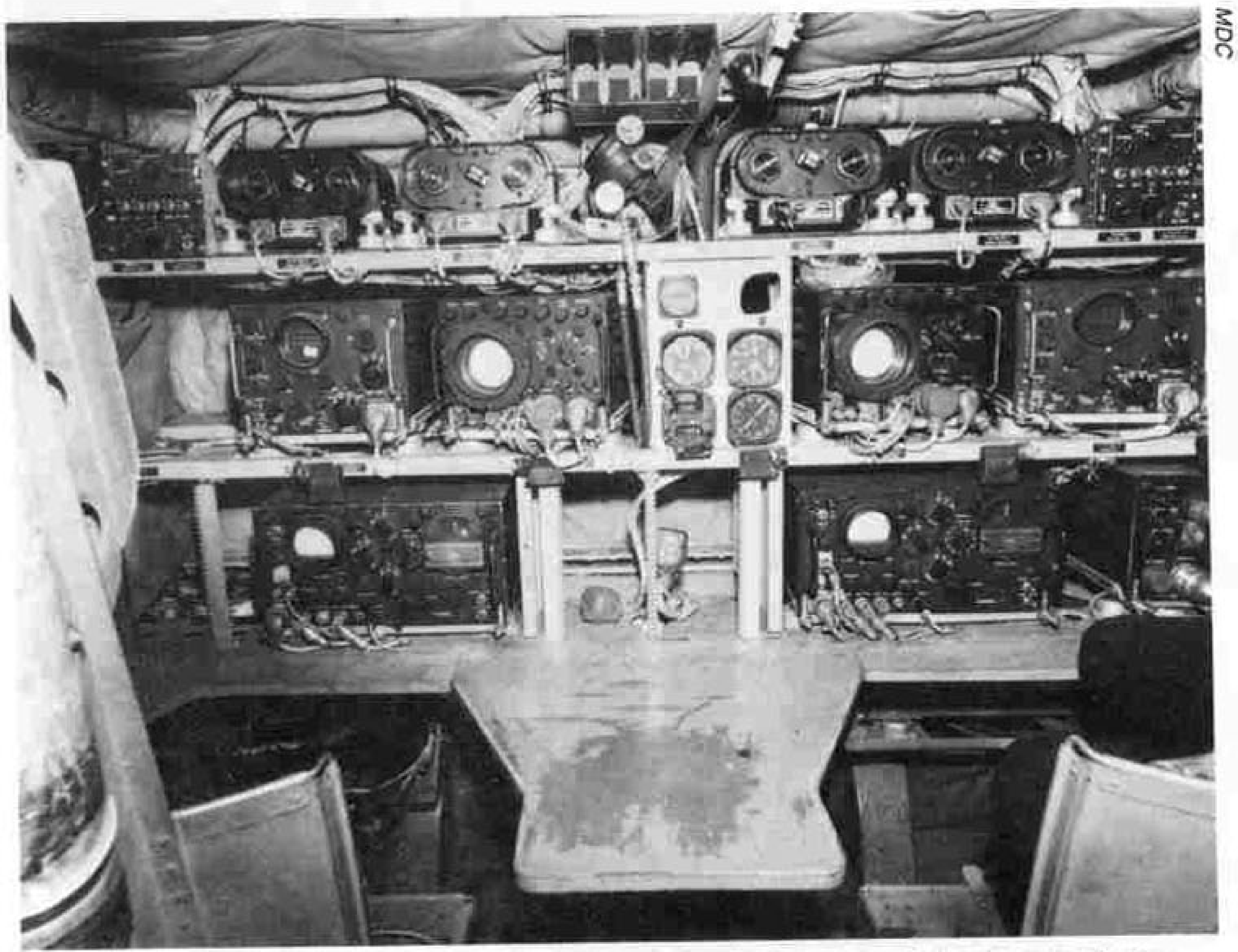


B-66B navigator's station. The navigator's swinging panel is to the left of the K-5 radar scope and optical bomb sight, and has been rotated full aft.

AFT CREW COMPARTMENT WB66D



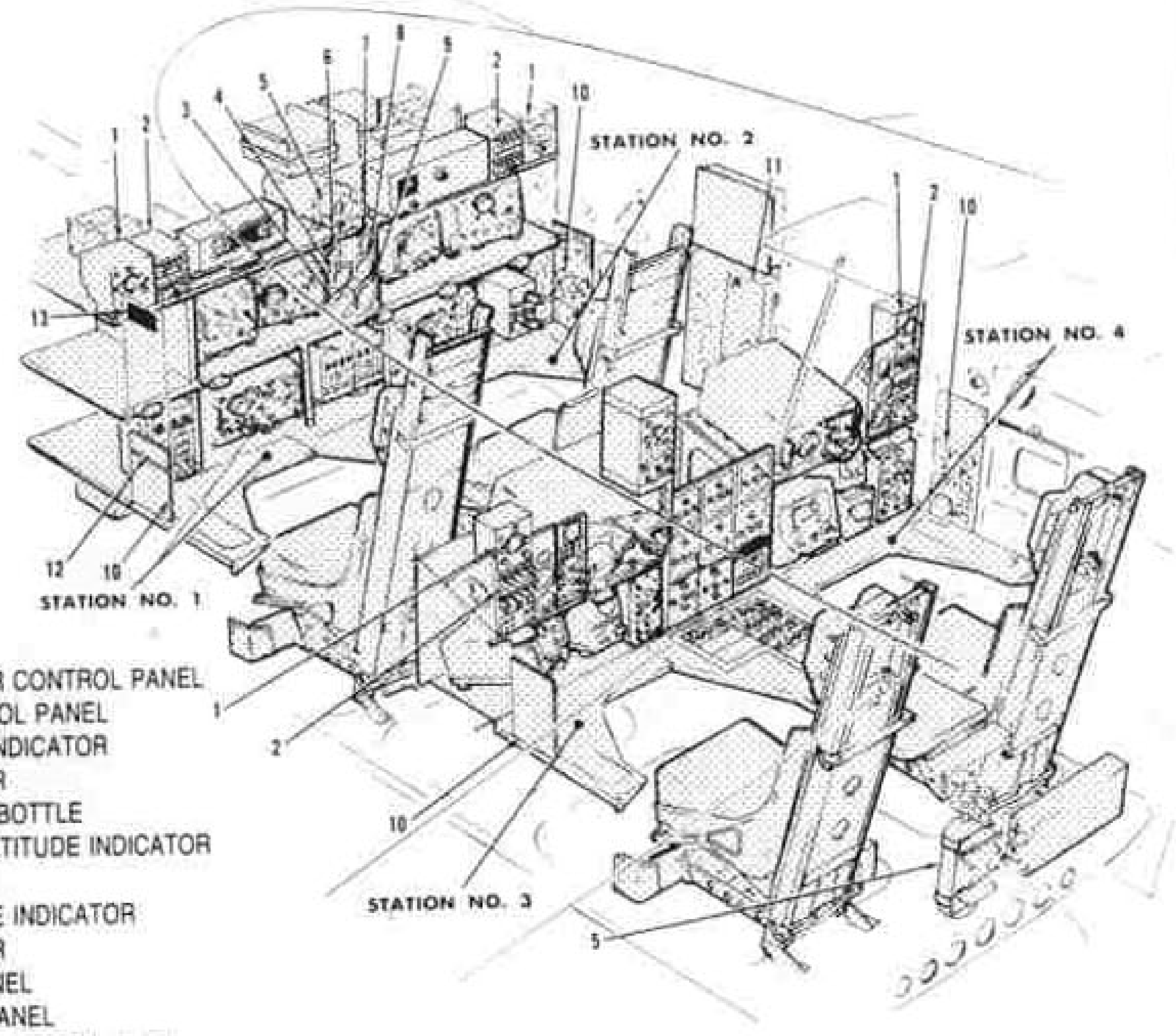
1 INTERPHONE CONTROL PANEL
2 OXYGEN REGULATOR
3 RADIO ALTIMETER INDICATOR
4 TRUE AIRSPEED INDICATOR
5 PRESSURE ALTIMETER
6 TEMPERATURE INDICATOR
7 AN/AMQ-7 TEMPERATURE INDICATOR
8 AN/AMQ-7 HUMIDITY INDICATOR
9 GROUND POSITION INDICATOR
10 CLOCK
11 WIND DIRECTION INDICATOR
12 CABIN PRESSURE INDICATOR
13 WIND SPEED INDICATOR
14 COMPASS REPEATER INDICATOR
15 AN/AMR-3 RADIOSONDE RECEPTOR
16 FSK CONTROL PANEL
17 AN/ARC-65 OR AN/ARC-21 RADIO CONTROL PANEL
18 CV-357/A FREQUENCY SHIFT CONVERTER
19 AN/AME-1 RADIOSONDE DISPENSER CONTROL PANEL
20 RECORDER CONTROL PANEL
21 TT-76/GGC TELETYPEWRITER
22 AIR CONDITIONING CONTROL PANEL
23 LIGHTING CONTROL PANEL
24 AFT CREW COMPARTMENT CIRCUIT BREAKER PANEL
25 PORTABLE OXYGEN BOTTLE
26 RADIO ALTIMETER RECEIVER TRANSMITTER
27 AFT COMPARTMENT DITCHING HATCH
28 AN/AME-1 RADIOSONDE DISPENSER UNIT
29 AN/AME-1 RELAY ASSEMBLY BOX
30 SPARE RADIO ALTIMETER RECEIVER TRANSMITTER
31 SPARE RADIO ALTIMETER INDICATOR
32 ANH-2 WIRE RECORDER
33 AFT COMPARTMENT ENTRANCE DOOR
34 PARACHUTE STATIC LINE
35 HAND FIRE EXTINGUISHER
36 P-22 CAMERA CONTROLS



In the RB/EB-66Cs, there were four EWOs sitting in two rows of two forward-facing, side-by-side seats in the pressurized fuselage compartment. Seen are EWO stations 1 (left) and 2 (right) of an RB-66C. This area was accessed through a forward hatch.

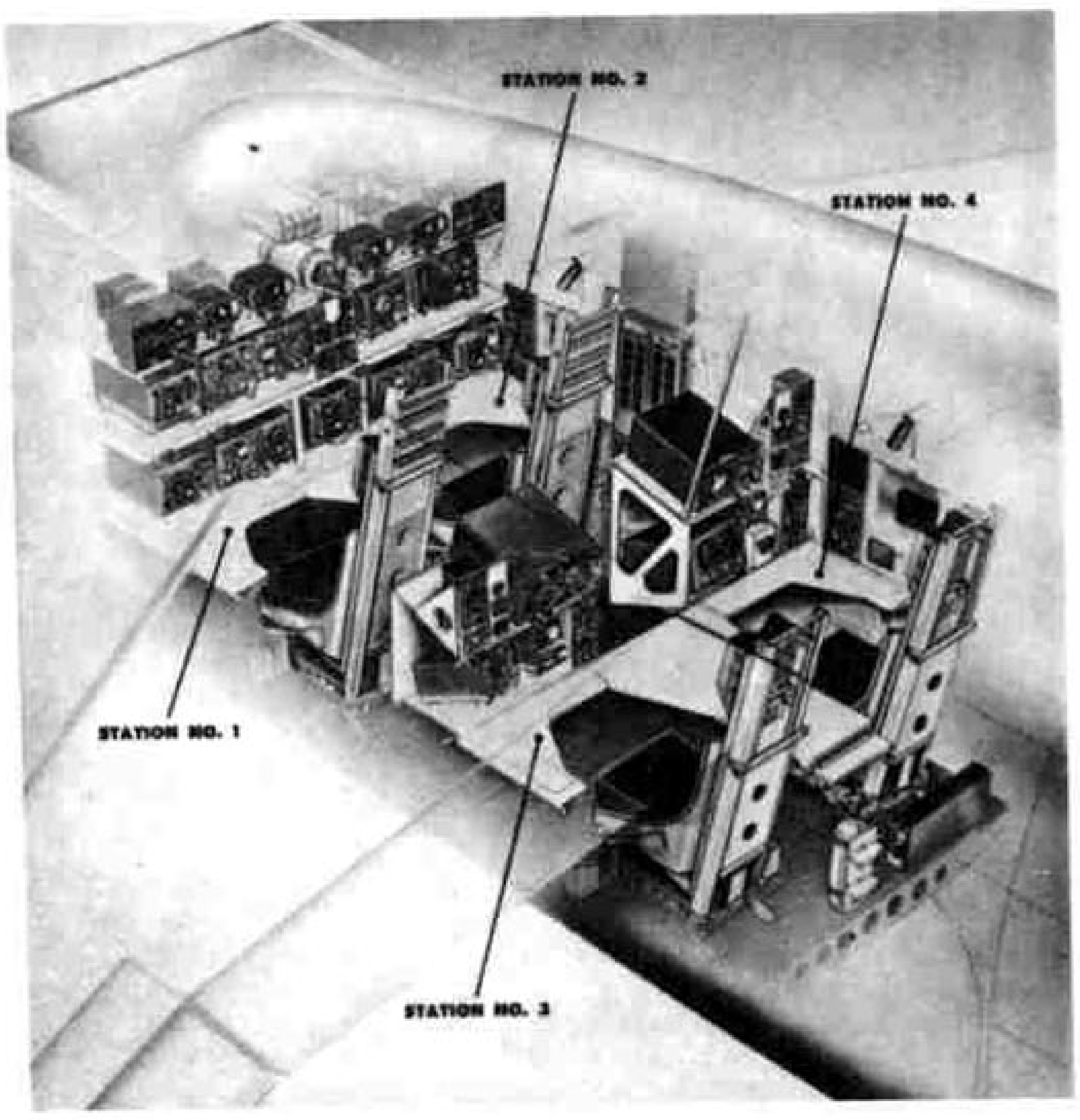
MDC

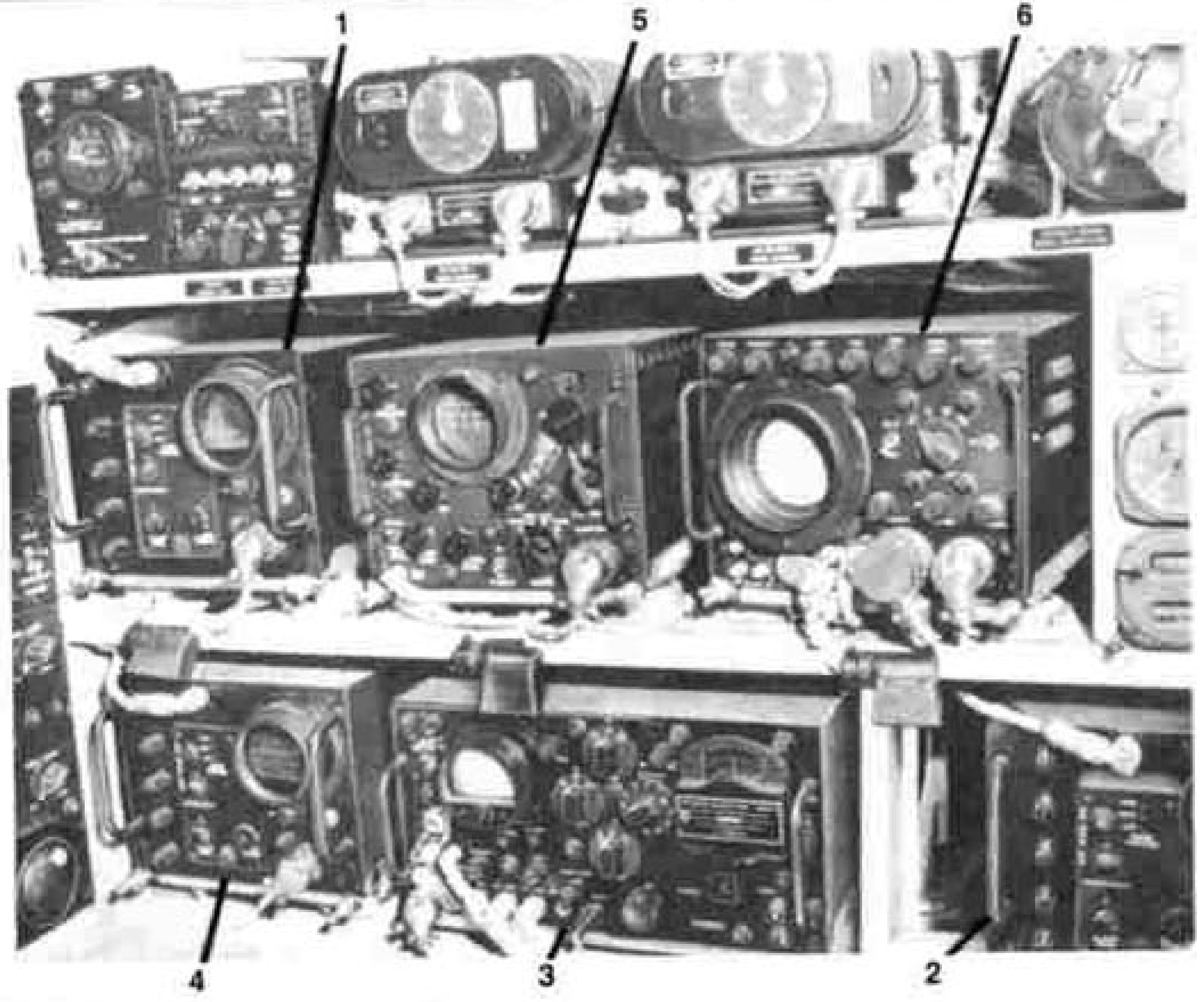
AFT CREW COMPARTMENT — EB-66C



1. OXYGEN REGULATOR CONTROL PANEL
2. INTERPHONE CONTROL PANEL
3. GROUND POSITION INDICATOR
4. AIRSPEED INDICATOR
5. PORTABLE OXYGEN BOTTLE
6. CABIN PRESSURE ALTITUDE INDICATOR
7. CLOCK
8. PRESSURE ALTITUDE INDICATOR
9. COMPASS REPEATER
10. LIGHT CONTROL PANEL
11. CIRCUIT BREAKER PANEL
12. AIR CONDITIONING CONTROL PANEL
13. AFT CREW COMPARTMENT OVERHEAT INDICATOR FUSE

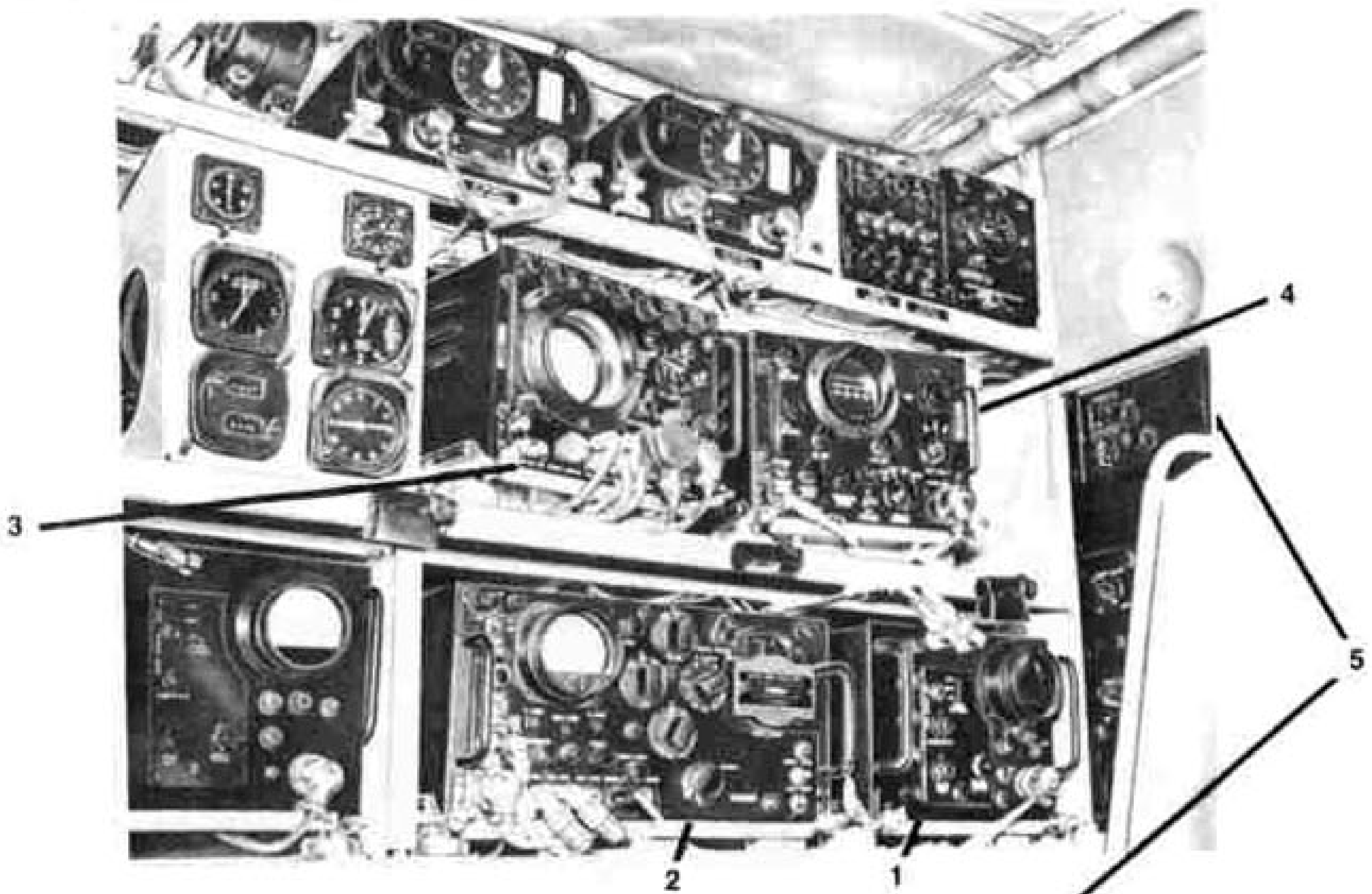
AFT CREW COMPARTMENT — RB-66C

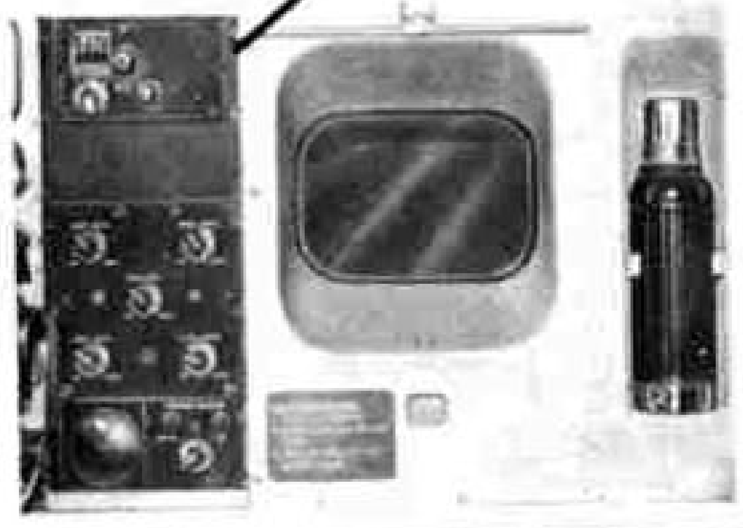




ECM STATION NO. 1 — TYPICAL (RB-66C)

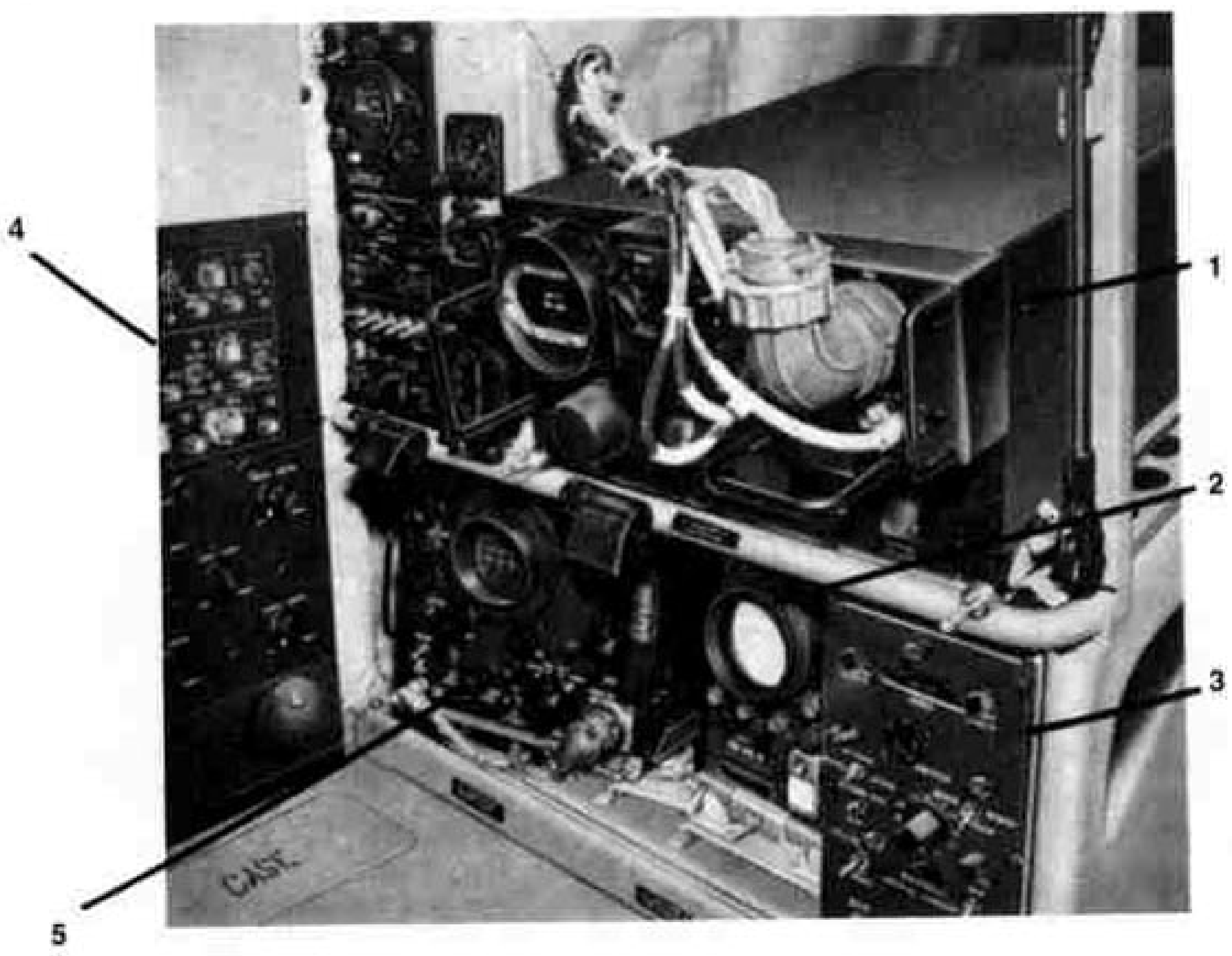
1. **AN/ARR-8B RADIO RECEIVER (R-358)**
2. **AN/ARR-8B RADIO RECEIVER (R-357)**
3. **AN/APR-14 RADAR INTERCEPT RECEIVER**
4. **AN/ARR-8B RADIO RECEIVER (R-256)**
5. **AN/ALA-5 PULS ANALYZER**
6. **AN/ALA-6 DIRECTION FINDER**





ECM STATION NO. 2 — TYPICAL (RB-66C)

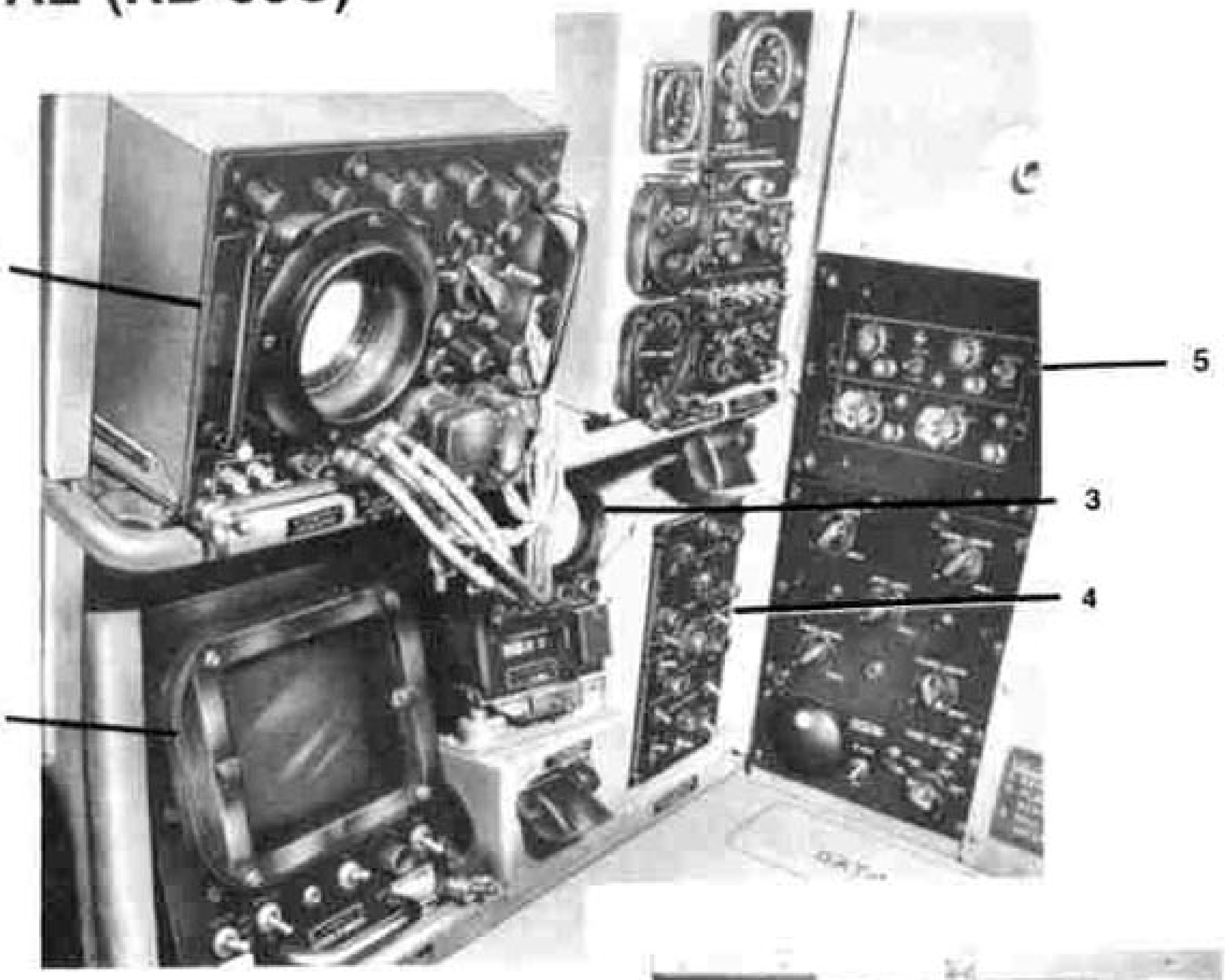
1. **AN/ARR-8B RADIO RECEIVER**
2. **AN/APR-14 RADAR INTERCEPT RECEIVER**
3. **AN/ALA-6 DIRECTION FINDER**
4. **AN/ALA-5 PULSE ANALYZER**
5. **AN/ALA-6 ANTENNA CONTROL**



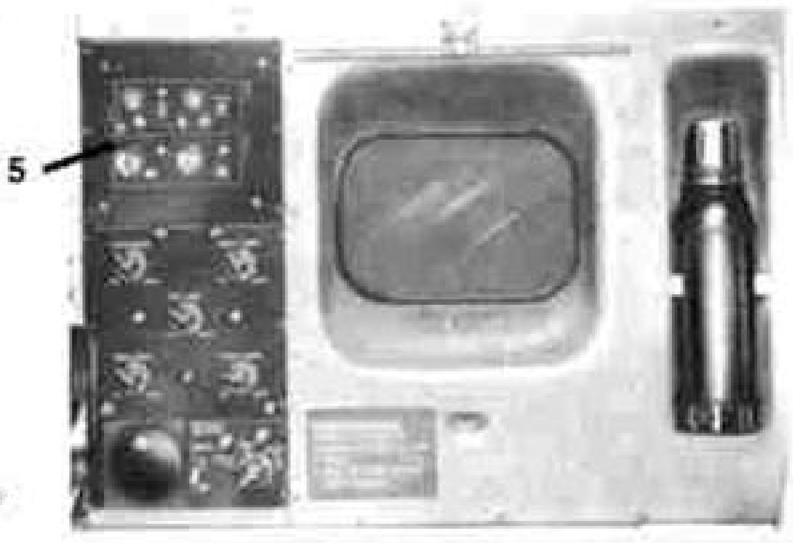
ECM STATION NO. 3 — TYPICAL (RB-66C)

1. **AN/APD-4 AZIMUTH INDICATOR**
2. **AN/APR-9B INDICATOR**
3. **AN/APR-9B RADAR CONTROL PANEL**
4. **ECM CONTROL PANEL (Some Aircraft)**
5. **AN/ALA-5 PULSE ANALYZER**

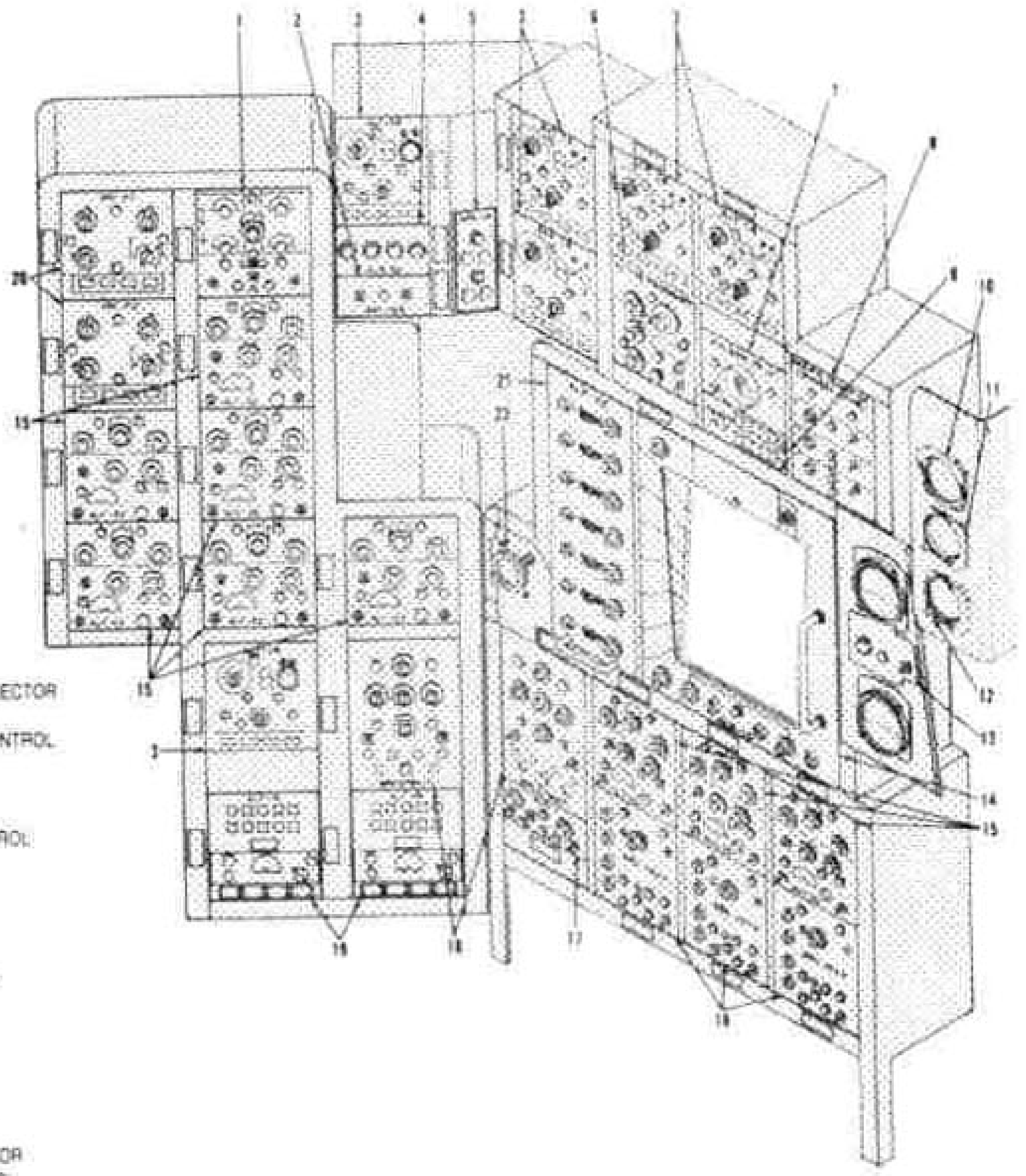
ECM STATION NO. 4 — TYPICAL (RB-66C)



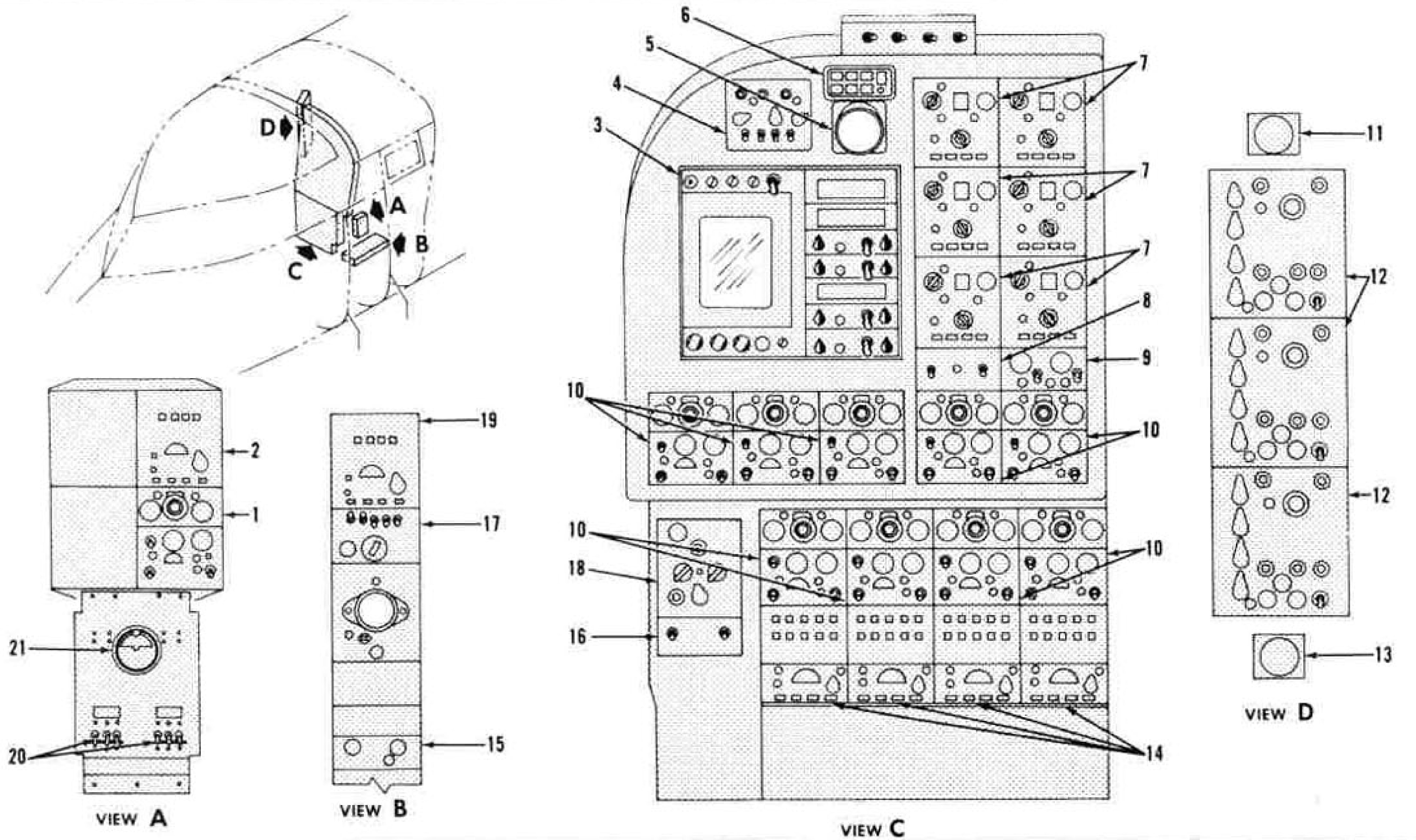
1. AN/ALA-6 OR AN/APD-4 AZIMUTH INDICATOR
2. AN/APA-74 INDICATOR AND KD-2 RECORDING CAMERA
3. AN/APR-9B INDICATOR
4. AN/APR-9B RADAR CONTROL PANEL
5. ECM CONTROL PANEL (Some Aircraft)



EWO STATION EB-66E — TYPICAL

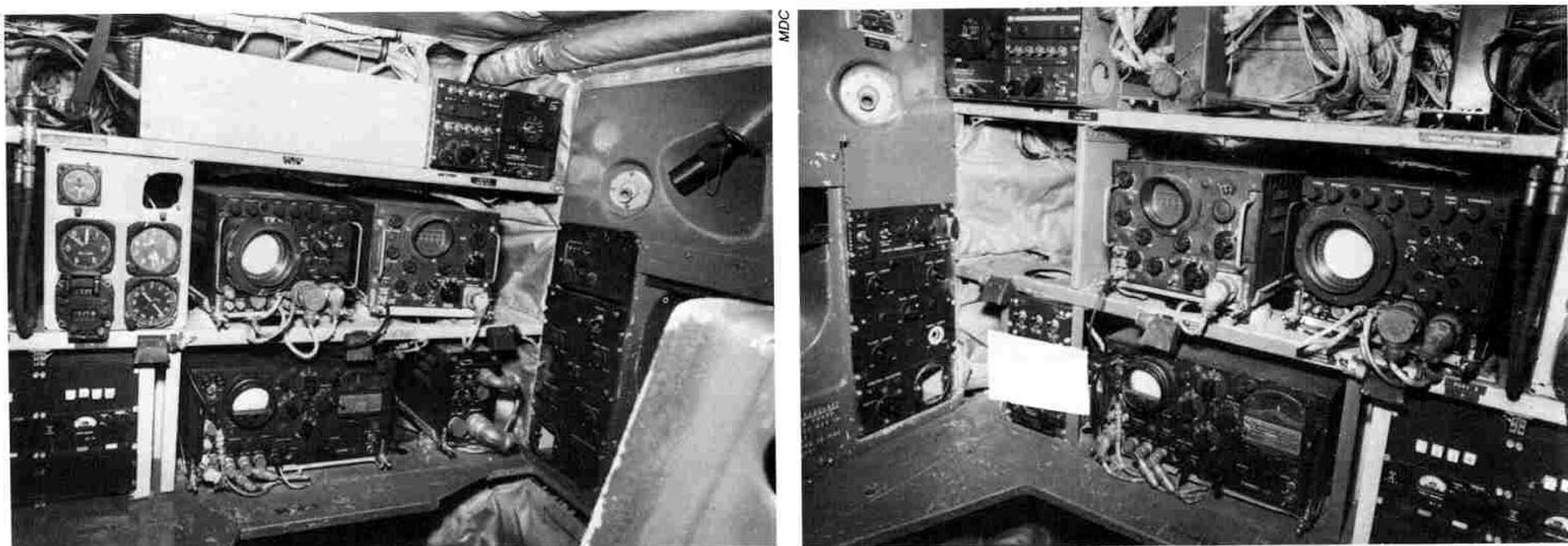


1. C-3357/ALR-18 RECEIVER CONTROL
2. QRC-316 ANTENNA POLARIZATION SELECTOR
3. C-7239/ALT-28 CONTROL INDICATOR
4. C-4782/ALR-20 ECM TRANSMITTING CONTROL
5. AN/APR-25 FUSE PANEL
6. C-7240/ALT-28 PROGRAMMER
7. AN/APR-25 CRT INDICATOR
8. AN/APR-25, APR-26 THRESHOLD CONTROL
9. AN/APR-25 THREAT DISPLAY UNIT
10. AIRSPEED INDICATOR
11. COMPASS
12. ALTIMETER
13. POWER MONITOR PANEL
14. IP-655/ALR-20 PANORAMIC INDICATOR
15. C-1970A/ALT-22 AND C-2163/ALT-6B -22 CONTROL INDICATOR
16. QRC-304A PROGRAMMER
17. ALE-1 CHAFF CONTROL PANEL
18. QRC-279A(T) CONTROL INDICATOR
19. C-3358/ALT-16 CONTROL INDICATOR
20. QRC-312A-1/ALT-15 CONTROL INDICATOR
21. C-4167/ALR-20 RECEIVER SET CONTROL
22. ECM COMPARTMENT TEMP INDICATOR



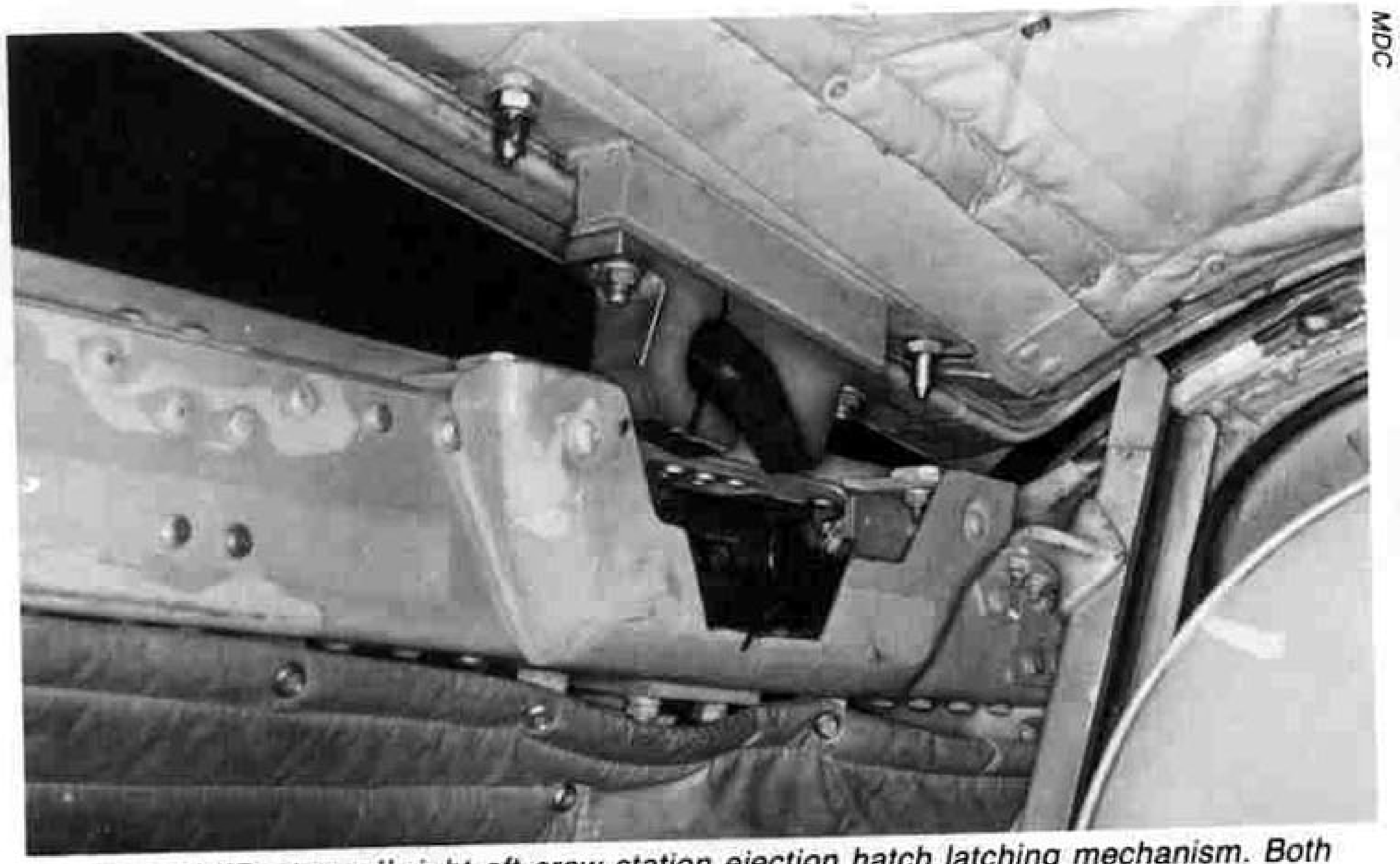
EWO STATION EB-66B — TYPICAL

1. C-3357/ALR-18 RECEIVER CONTROL
2. QRC-312A-1/ALT-15H CONTROL INDICATOR
3. AN/ALR-27 (QRC-315) PANORAMIC INDICATOR
4. AN/APR-25/26 THRESHOLD CONTROL
5. AN/APR-25/26 CRT INDICATOR
6. AN/APR-25/26 THREAT DISPLAY UNIT
7. C-3326/ALT-13 CONTROL INDICATOR
8. QRC-316 ANTENNA POLARIZATION SELECTOR
9. ALE-1 CHAFF CONTROL PANEL
10. C-2163/ALT-6B, -22 CONTROL INDICATOR
11. HEADING INDICATOR
12. QRC-304A PROGRAMMER
13. ALTIMETER
14. C-3358/ALT-16 CONTROL INDICATOR
15. QRC-65 REMOTE CONROL
16. AN/APS-54 CONTROL PANEL
17. C-824/AIC-10 INTERPHONE CONTROL PANEL
18. QRC-218A(T) MODULATOR
19. QRC-312A-1/ALT-15L CONTROL INDICATOR
20. ECM PALLET HEINMAN CIRCUIT BREAKERS
21. ASH TRAY

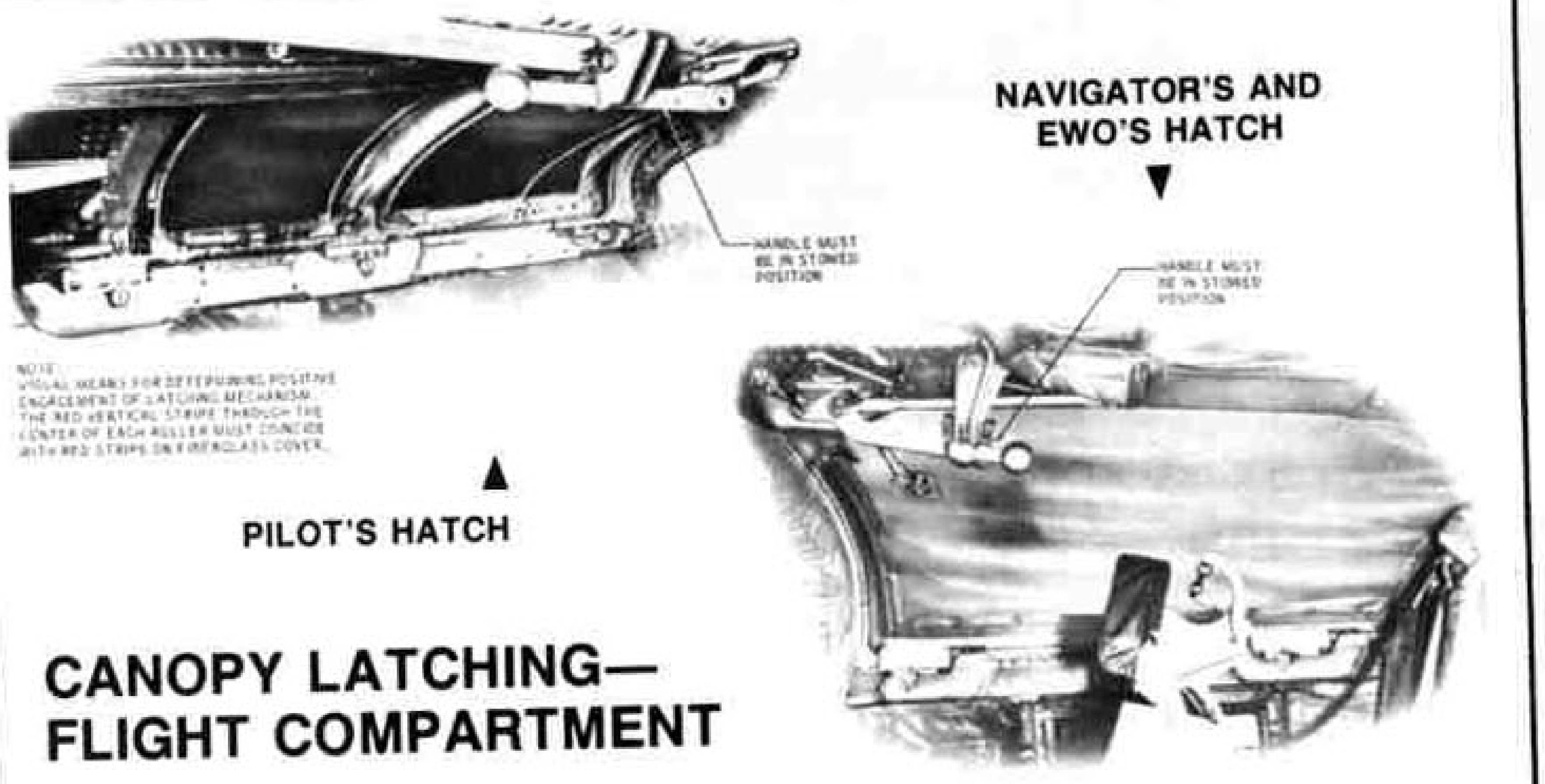

MDC

MDC

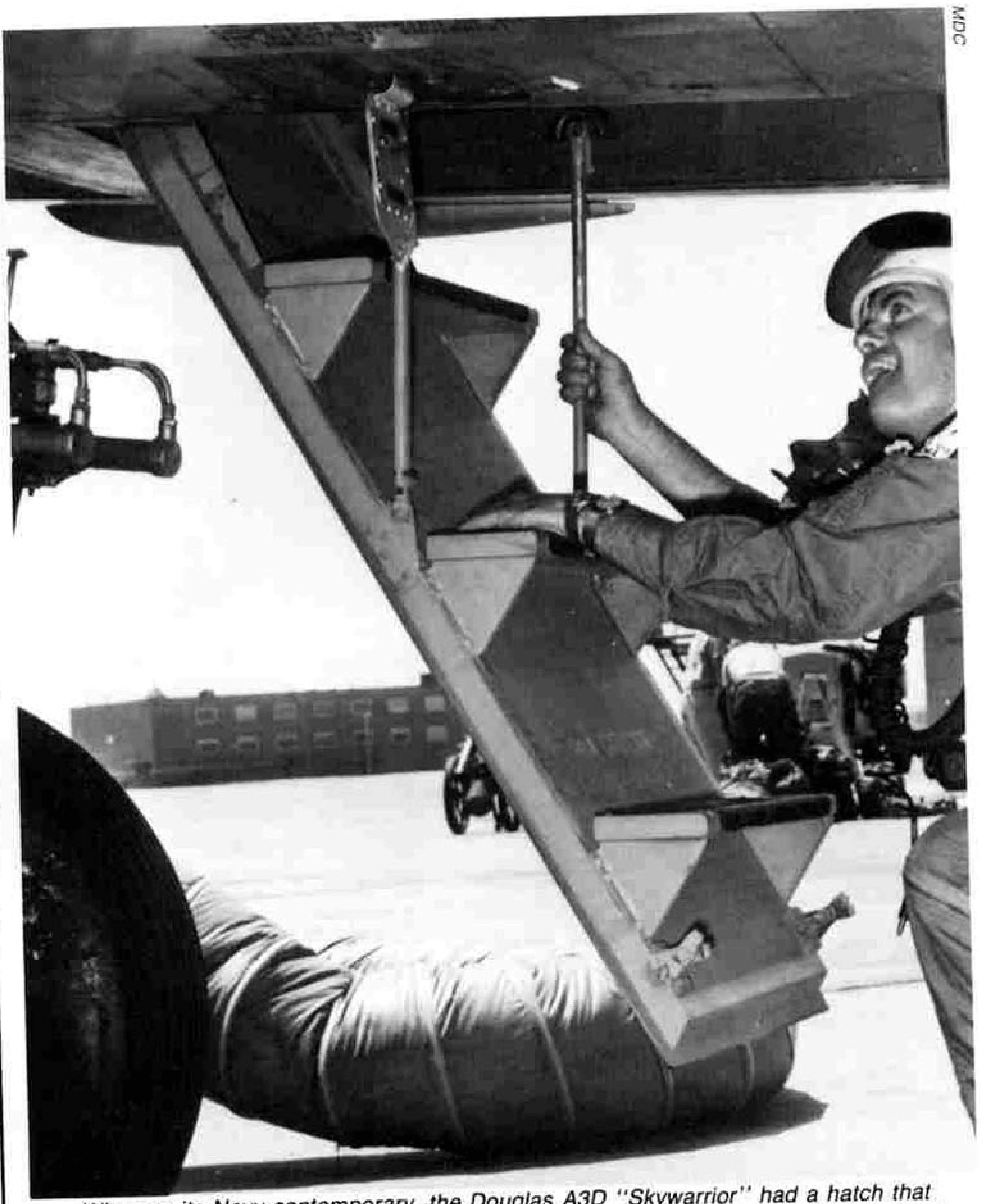
EB-66C with slightly different equipment in the EWO station 1 (left) and station 2 (right) positions. Illustrated are some of the ECM equipment upgrades installed during the Vietnam war. In the lower right corner of the station 1 equipment suite are two ALT-15 control panels. To the left of the APR-14 receiver are a QRC-292/-311A control panel and a "censored" ALT-16 panel. The ALT-16 panel was similar to the ALT-15, but had two rows of five buttons, instead of one row of four.


MDC

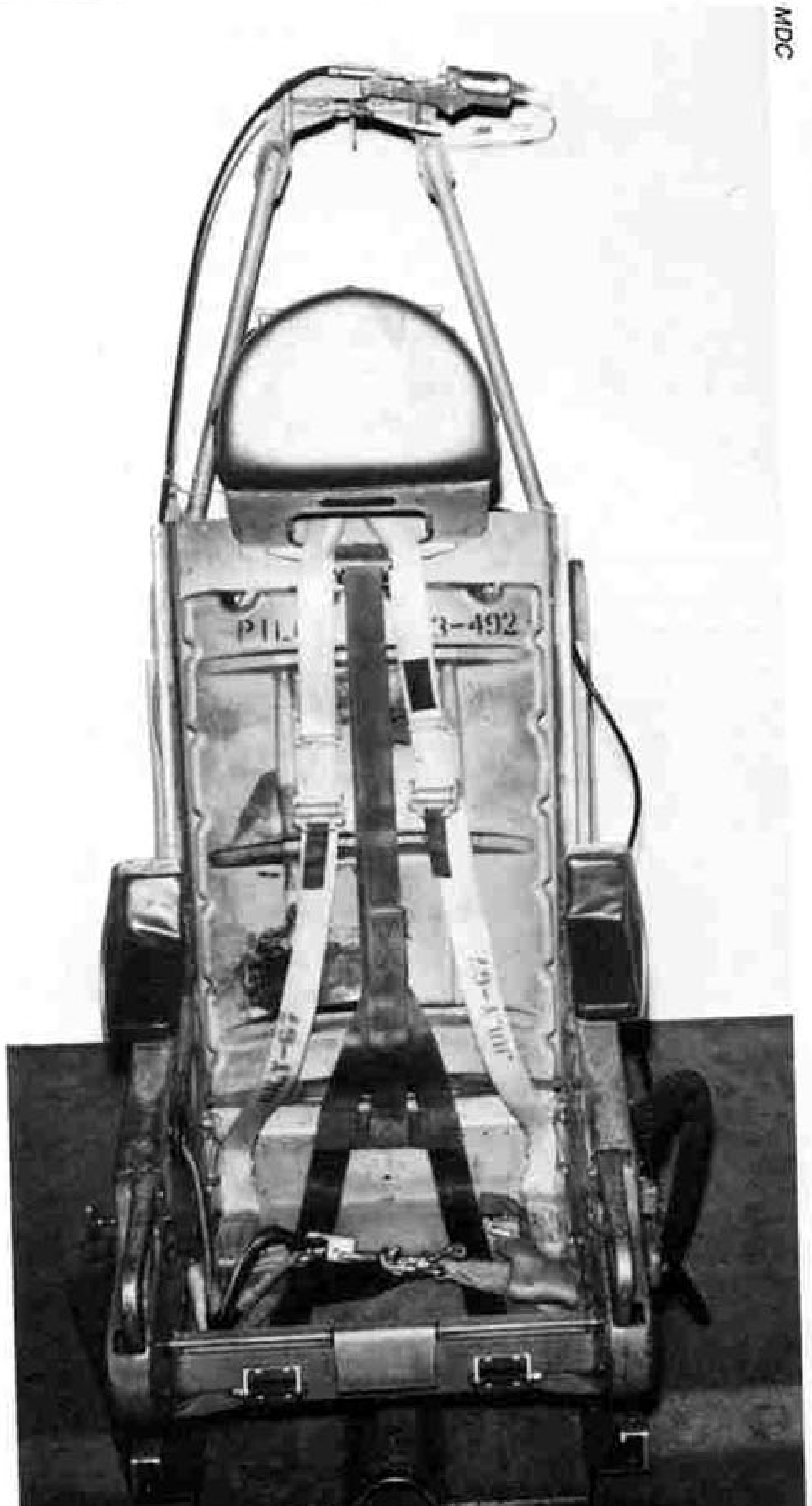
Typical "Destroyer" right aft crew station ejection hatch latching mechanism. Both aft crew station hatches had four latches, two on the left side and two on the right. Each was hinged at its respective rear edge.


NAVIGATOR'S AND EWO'S HATCH
HANDLE MUST BE IN STOWED POSITION
HANDLE MUST BE IN STOWED POSITION
NOTE: VISUAL MEANS FOR DETERMINING POSITIVE ENGAGEMENT OF LATCHING MECHANISM. THE RED VERTICAL STRIPE THROUGH THE CENTER OF EACH ROLLER MUST COINCIDE WITH RED STRIPE ON FIBERGLASS COVER.
PILOT'S HATCH

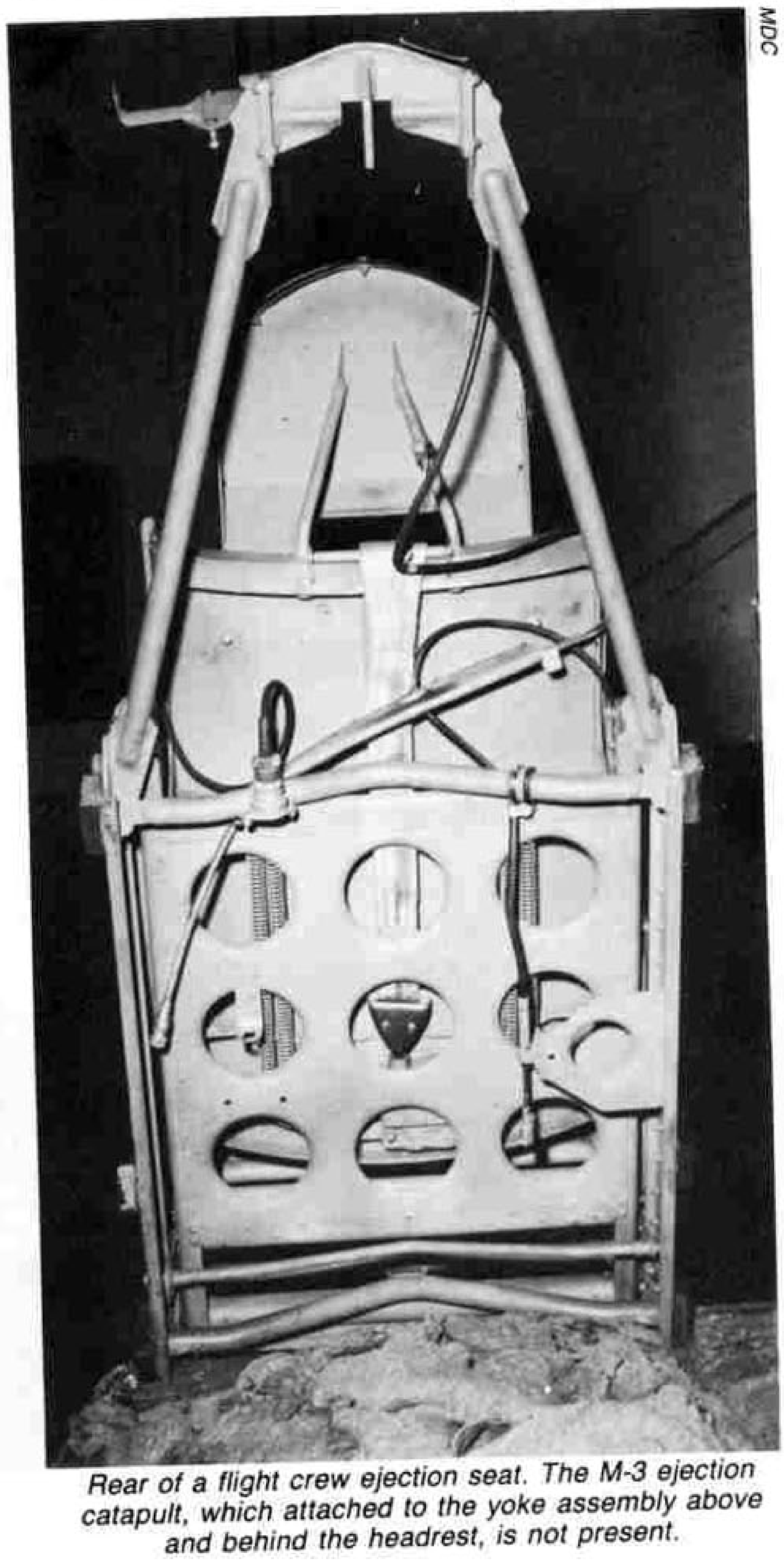
CANOPY LATCHING— FLIGHT COMPARTMENT


MDC

Whereas its Navy contemporary, the Douglas A3D "Skywarrior" had a hatch that doubled as a slide for emergency egress and thus was smooth (with recessed steps), the ejection seat-equipped "Destroyer" was designed with a hatch that had steps.


MDC

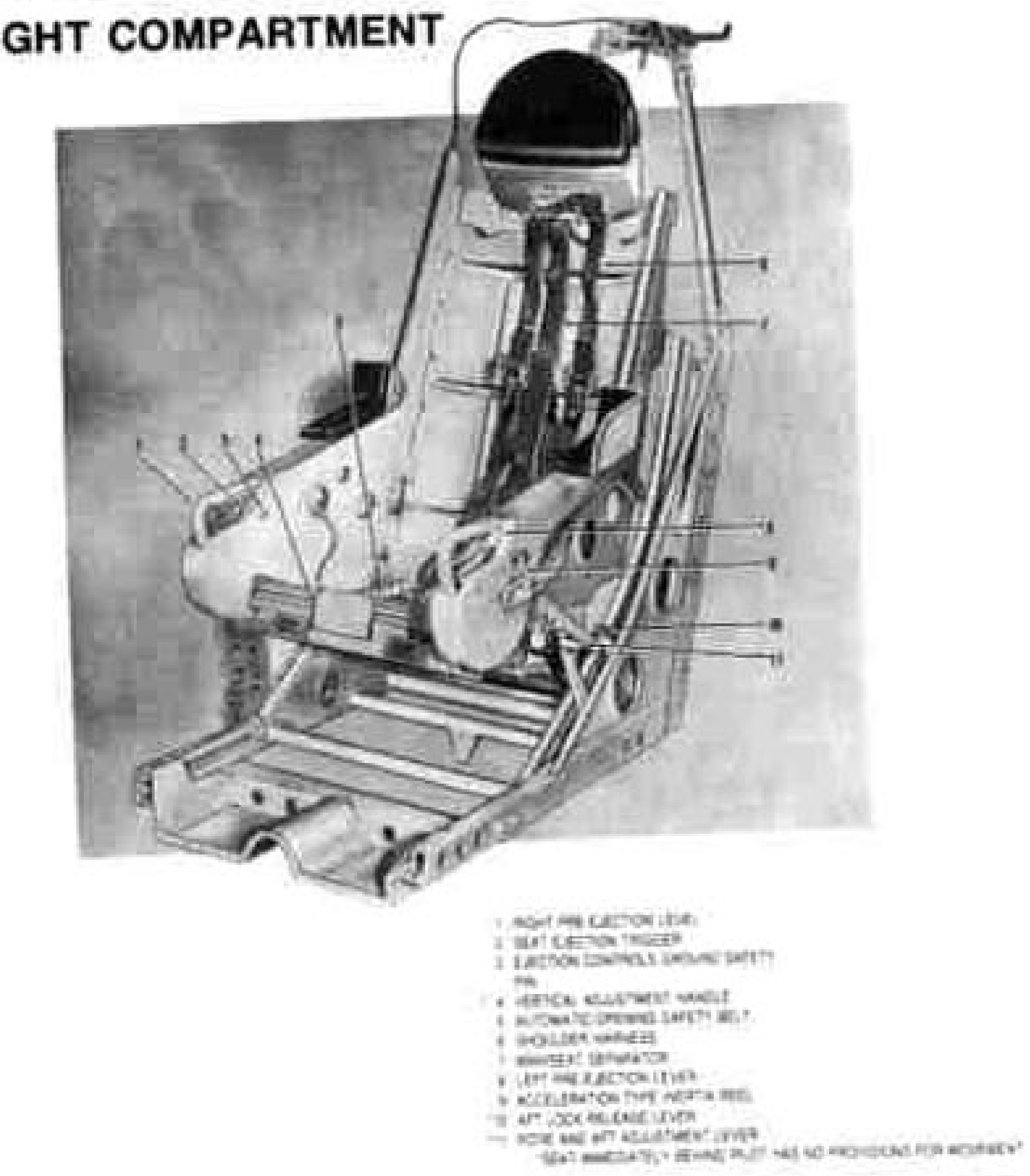
Typical flight crew compartment ejection seat. These were upward firing seats. RB/EB-66C and WB-66D aft compartment seats fired downward.


MDC

Rear of a flight crew ejection seat. The M-3 ejection catapult, which attached to the yoke assembly above and behind the headrest, is not present.

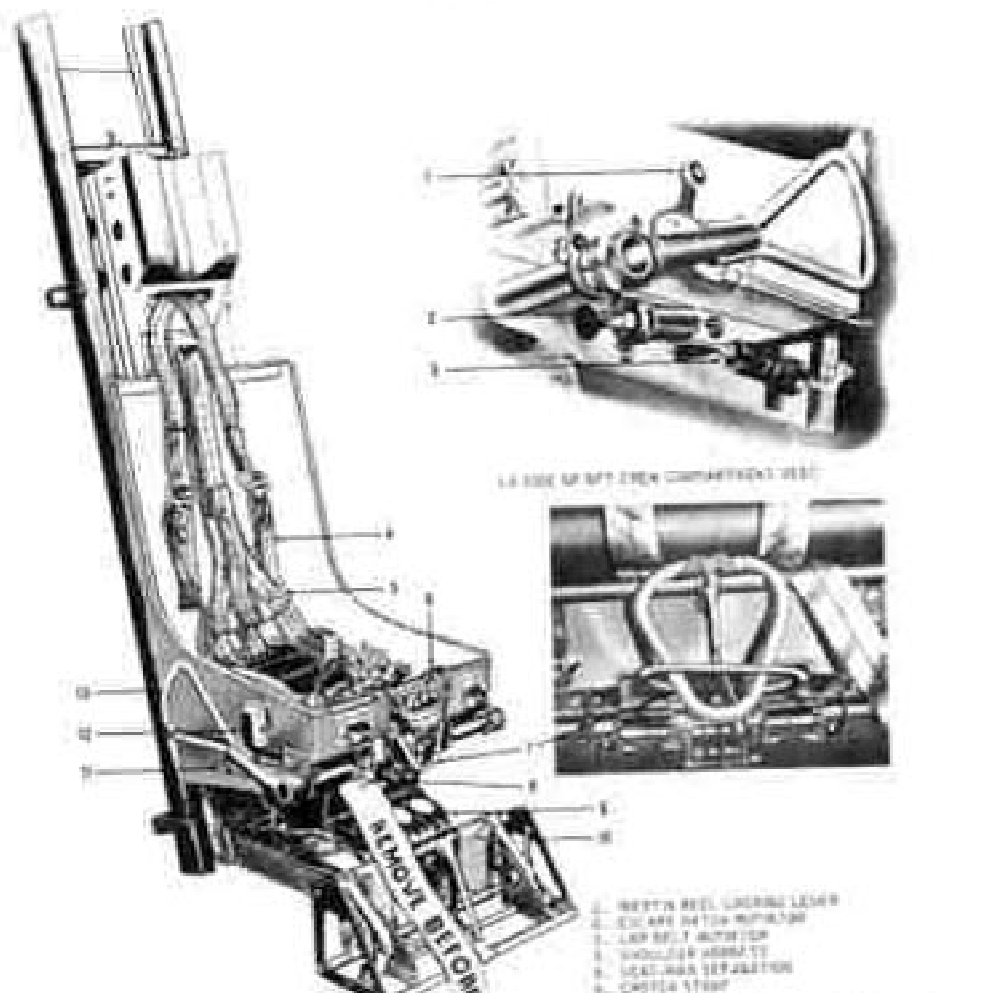
SEAT CONTROLS

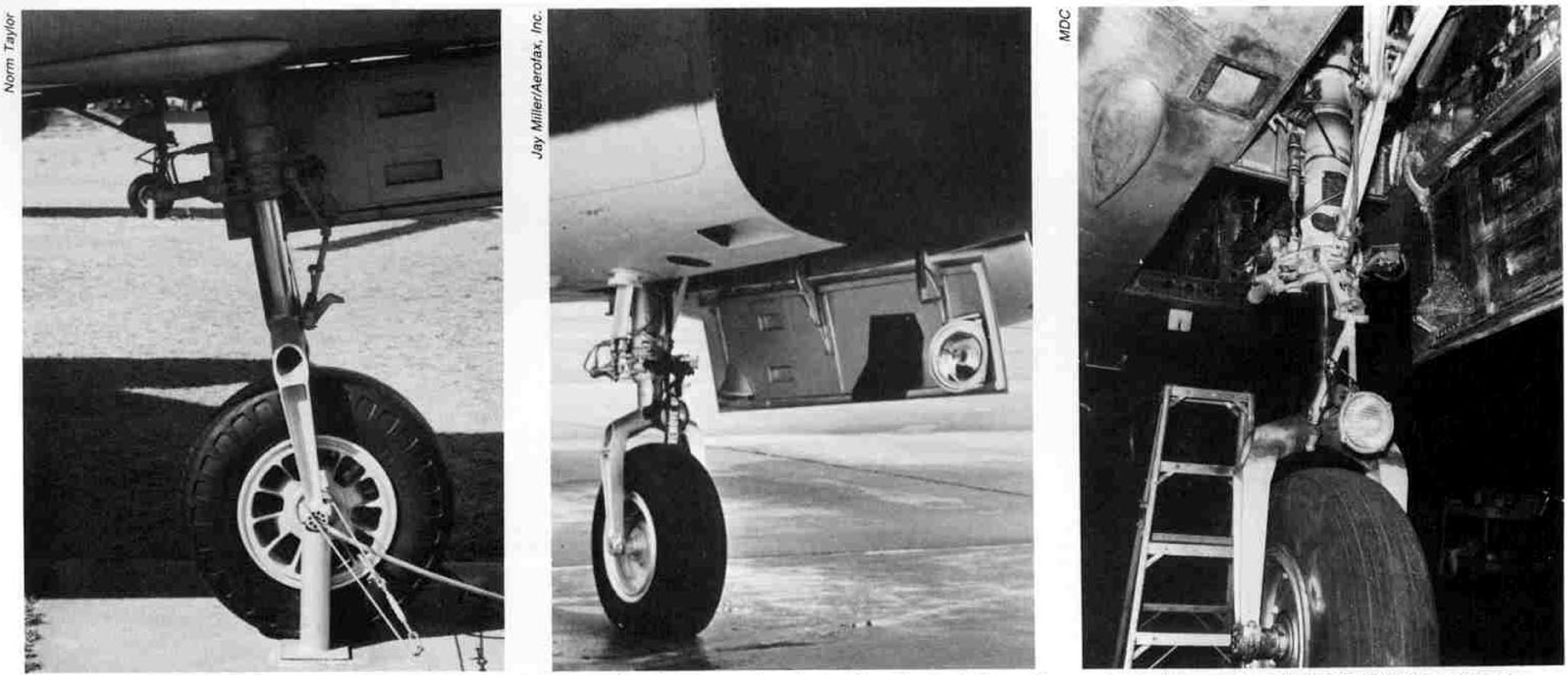
FLIGHT COMPARTMENT


1. RIGHT PRE-EJECTION LEVER
2. SEAT EJECTION TRIGGER
3. EJECTION CONTROLS GROUND SAFETY PIN
4. VERTICAL ADJUSTMENT HANDLE
5. AUTOMATIC OPENING SAFETY BELT
6. SHOULDER HARNESS
7. MAN/SEAT SEPARATOR
8. LEFT PRE-EJECTION LEVER
9. ACCELERATION TYPE INERTIA REEL
10. AFT LOCK RELEASE LEVER
11. FORE AND AFT ADJUSTMENT LEVER*
*SEAT IMMEDIATELY BEHIND PILOT HAS NO PROVISIONS FOR MOVEMENT

SEAT CONTROLS

AFT CREW COMPARTMENT


LH SIDE OF AFT CREW COMPARTMENT SEAT
REMOVE BEFORE FLIGHT
1. INERTIA REEL LOCKING LEVER
2. ESCAPE HATCH INITIATOR
3. LAP BELT INITIATOR
4. SHOULDER HARNESS
5. SEAT-MAN SEPARATOR
6. CROTCH STRAP
7. EJECTION RING
8. EJECTION CONTROLS GROUND SAFETY PIN
10. ANKLE RESTRAINT
11. AFT SEAT CATAPULT INITIATOR
12. VERTICAL ADJUSTMENT SWITCH
13. LEG GUARD LEVER

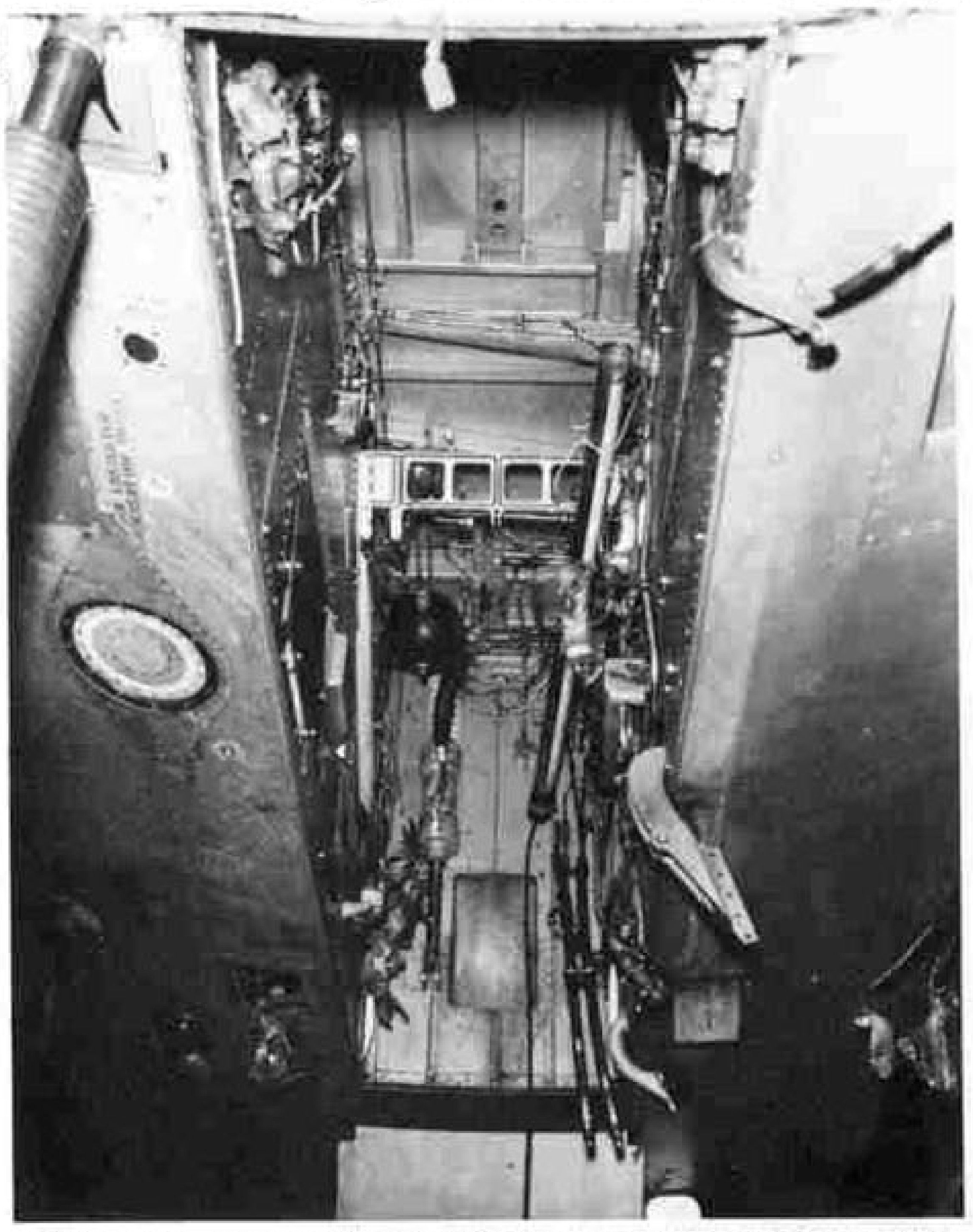


Norm Taylor

Jay Miller/Aerofax, Inc.

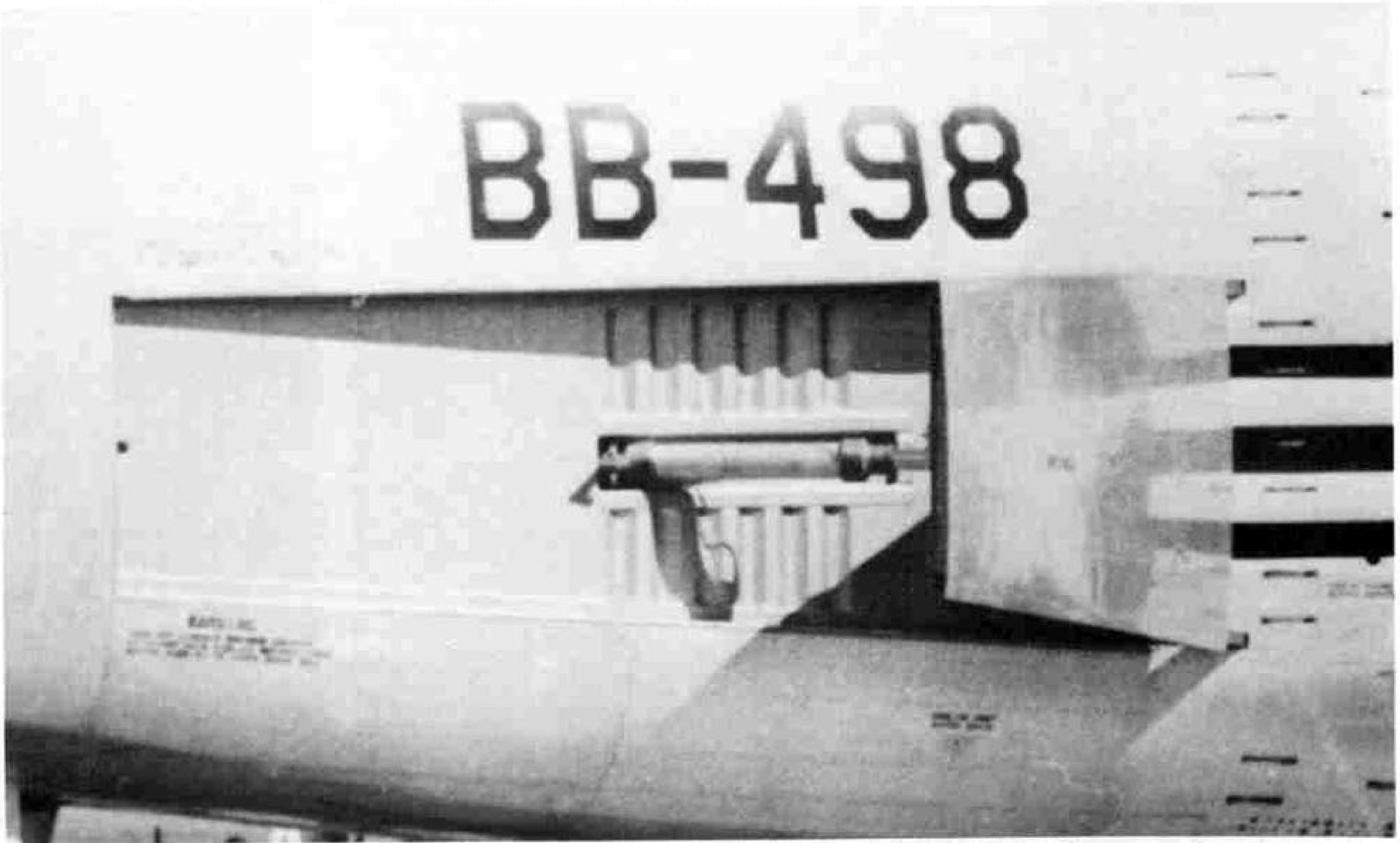
MDC

The "Destroyer" family utilized a Cleveland Pneumatic Co. nose landing gear with a single 36 x 11 wheel. The unit was retracted forward by a hydraulic "Y"-type actuator with a single ram. A single-piece nose gear wheel door was attached to the fuselage at three hinge points on the left side of the fuselage and was mechanically closed as the gear entered the well. A landing light was attached to the forward edge of the gear door and a taxi light was mounted at the top of the gear yoke.



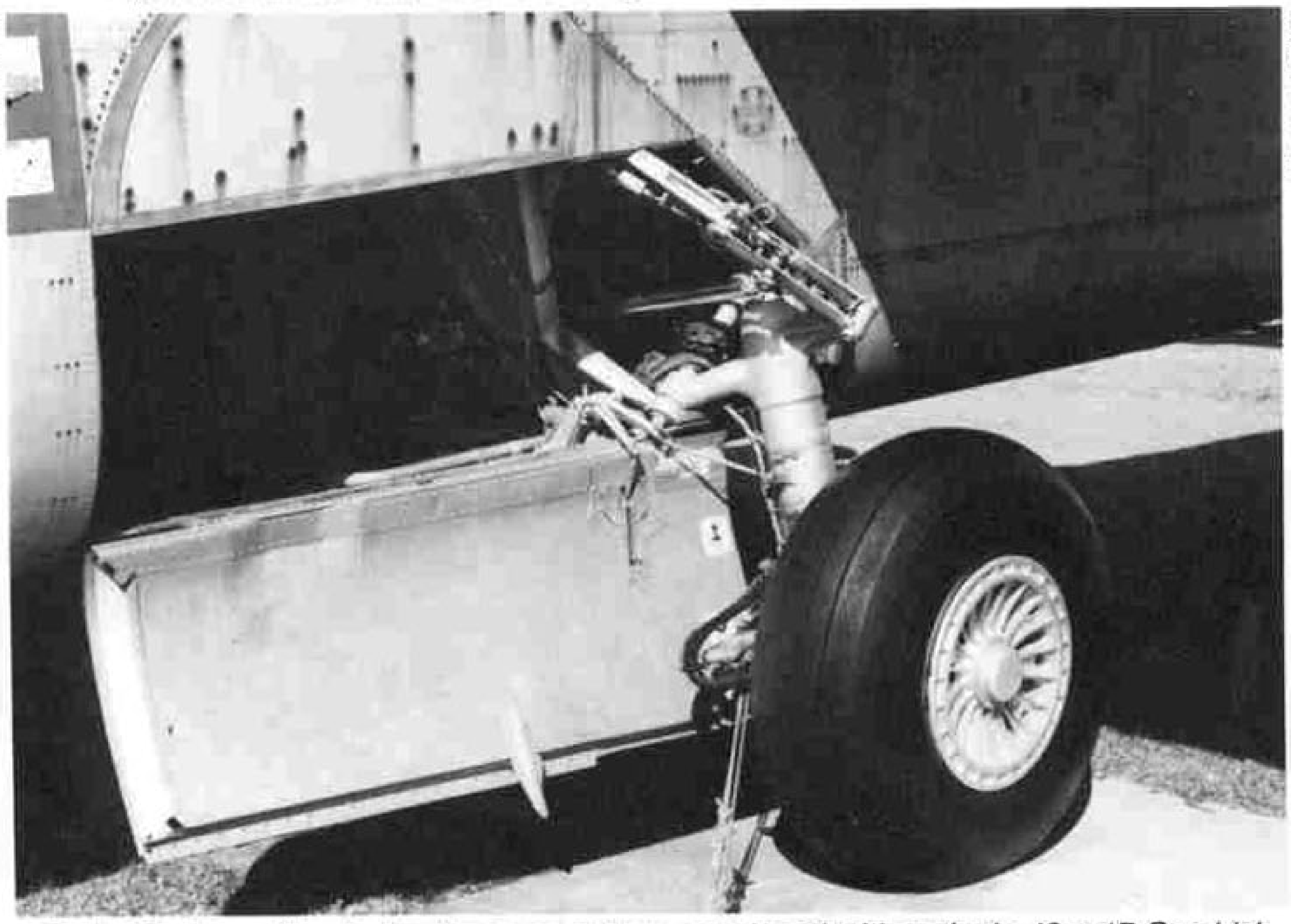
MDC

The nose gear well, essentially a rectangular box, was straightforward in design as there were no significant space restraints. This view is looking aft.



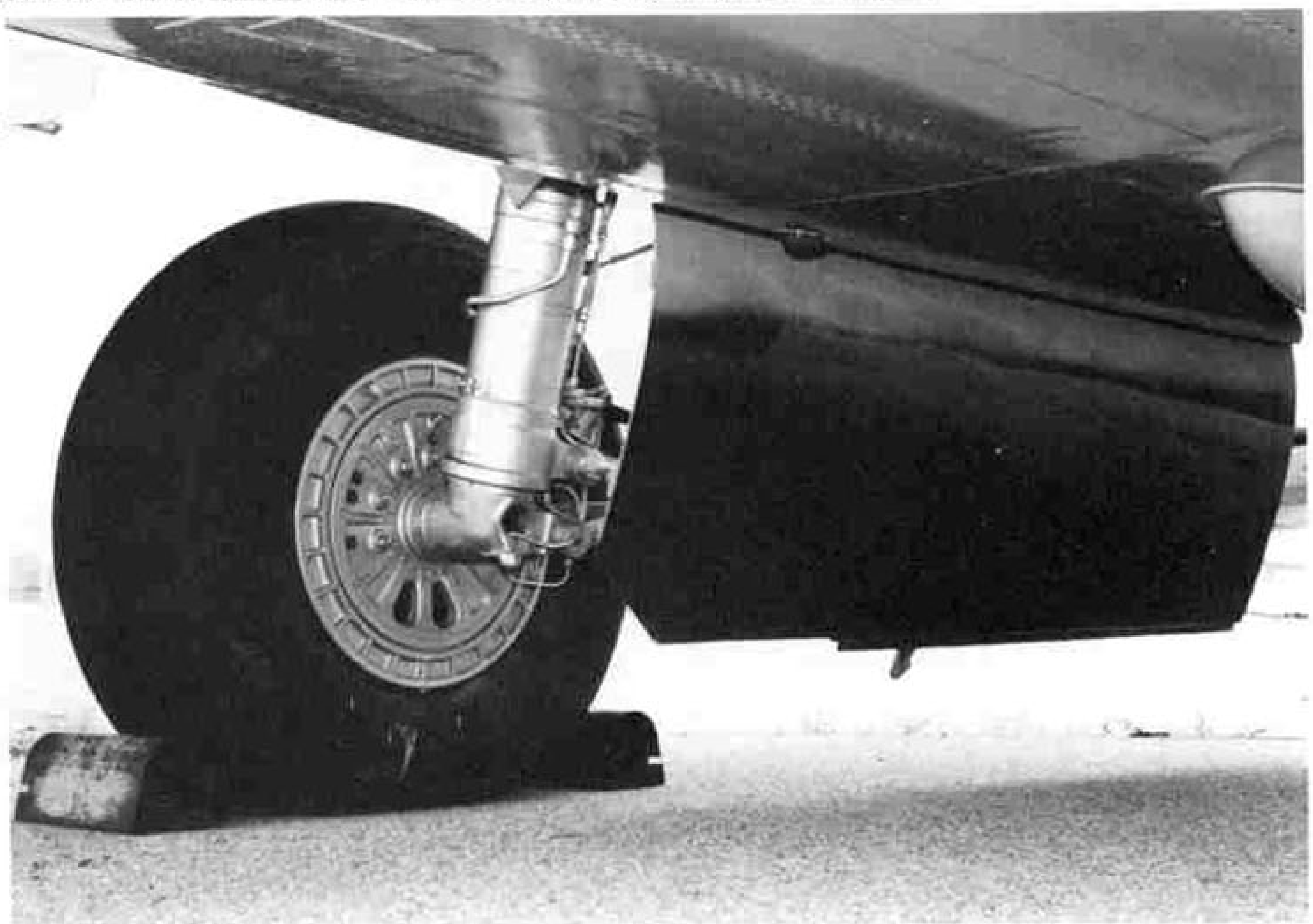
Peter Bowers via Nick Williams

The "Destroyer" family was equipped with two large, hydraulically-actuated air brakes, with one positioned on each side of the aft portion of the fuselage. Each surface was moved into position by a single hydraulic ram. The position of the brakes was variable, depending on pilot command.



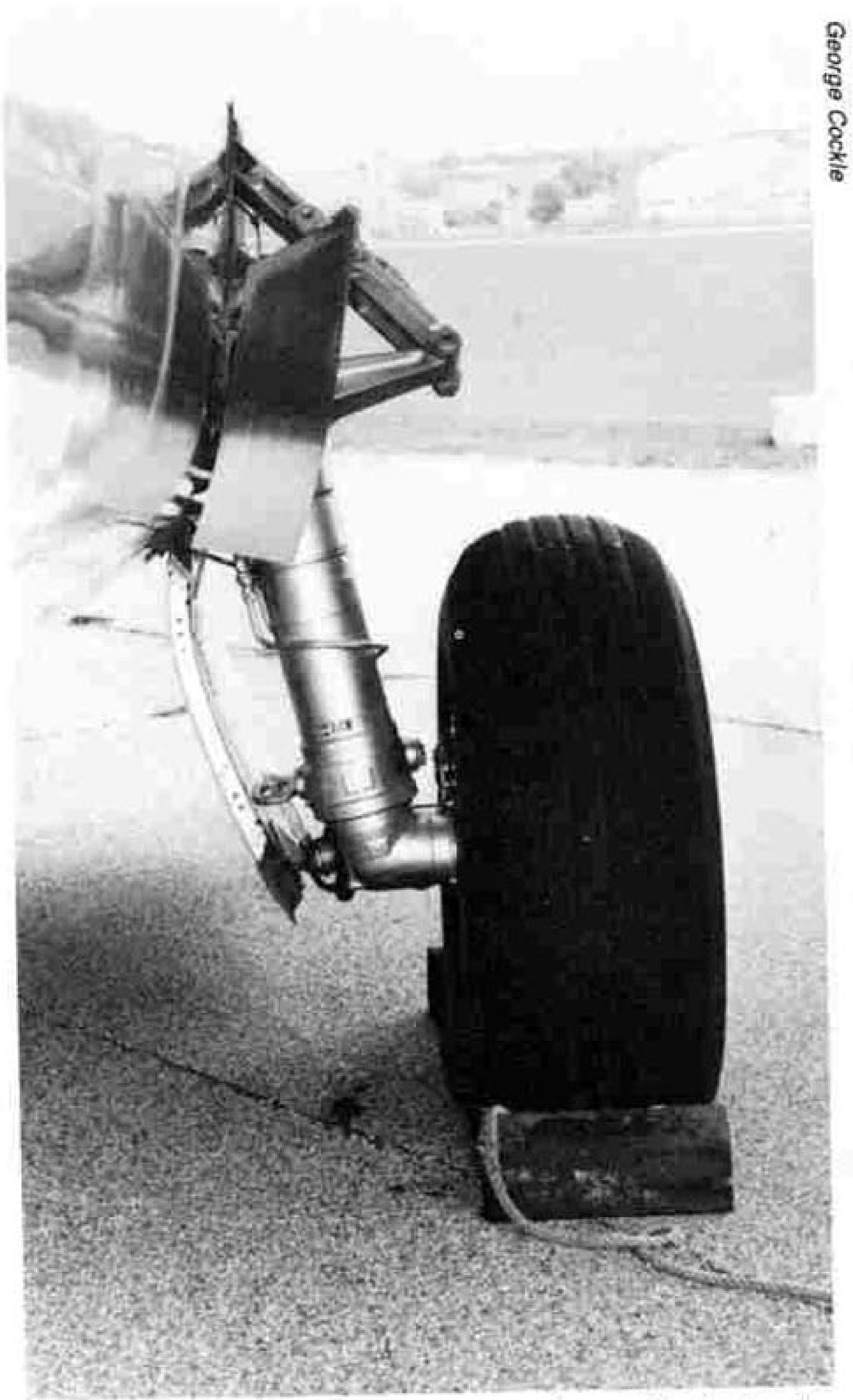
Norm Taylor

Each "Destroyer" main landing gear unit was equipped with a single 49 x 17 Goodrich "Silvertown" 26-ply rating tubeless tire. Each unit also was equipped with a segmented rotor-type disc brake actuated by the pilot through rudder pedal movement.

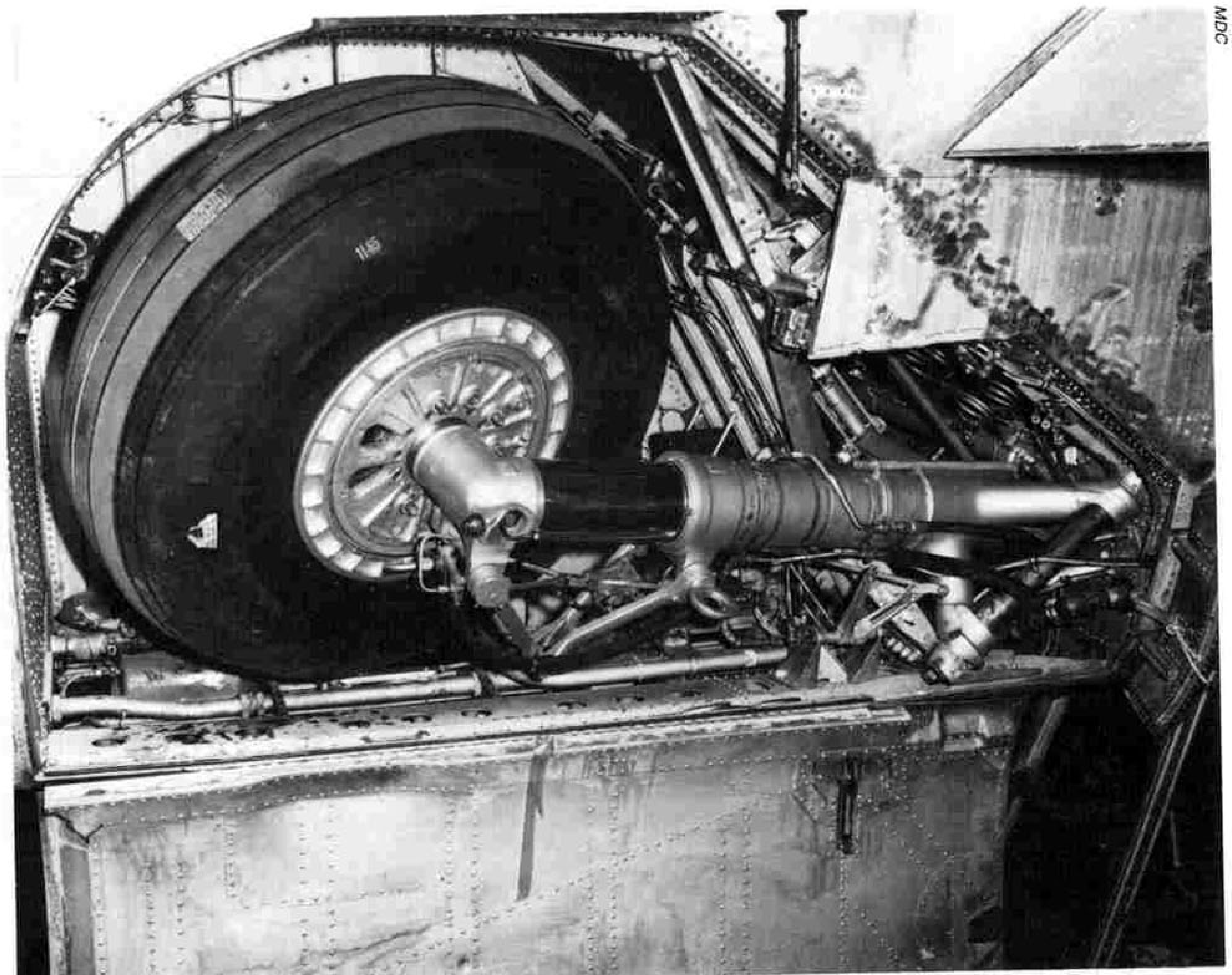


George Cockle

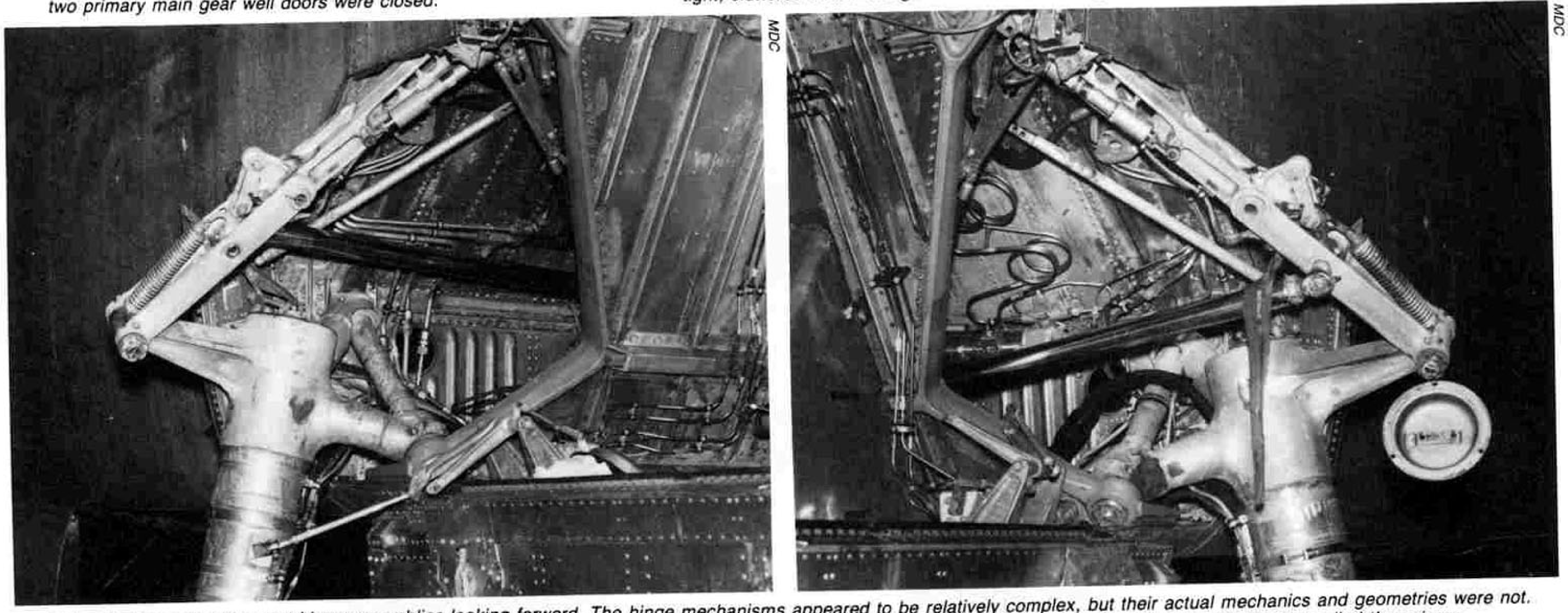
Right main gear looking outboard and aft. A single-piece strut and axle assembly accommodated all gear loads. Brake actuation was hydraulic with differential application possible. A single anti-torque link prevented rotation of the axle.


George Cockle

A small, vertically-hinged door was located just ahead of each main gear well to fill the gap left after the two primary main gear well doors were closed.

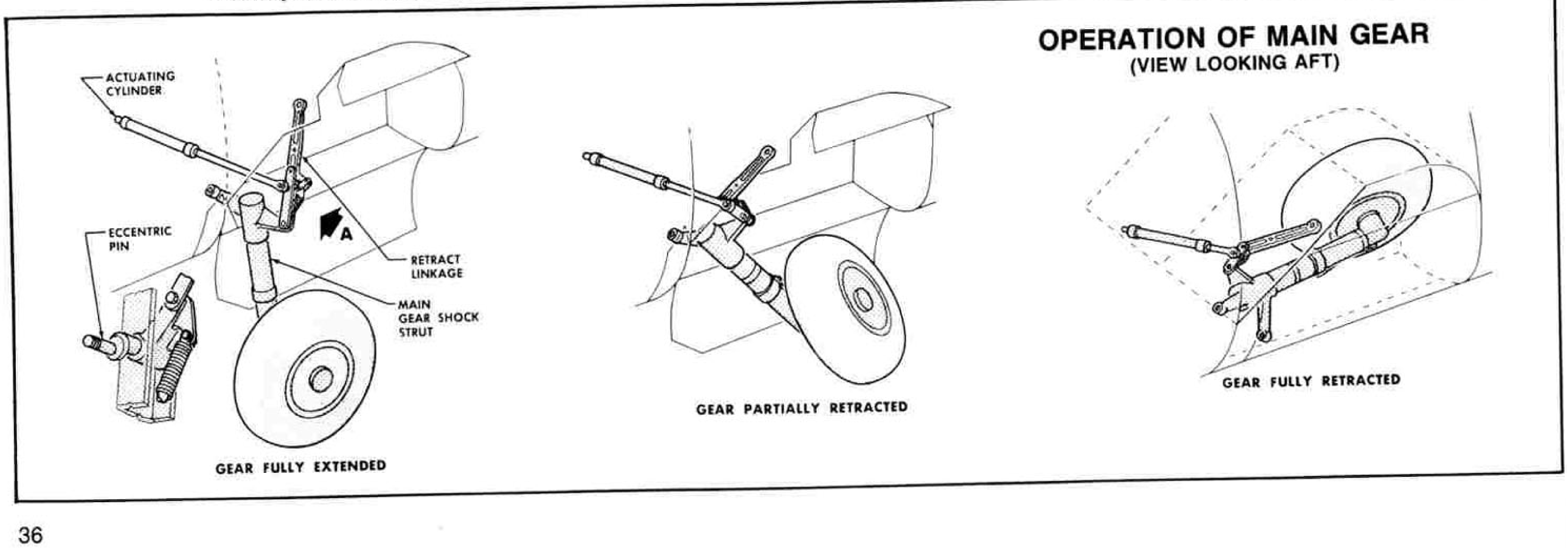

MDC

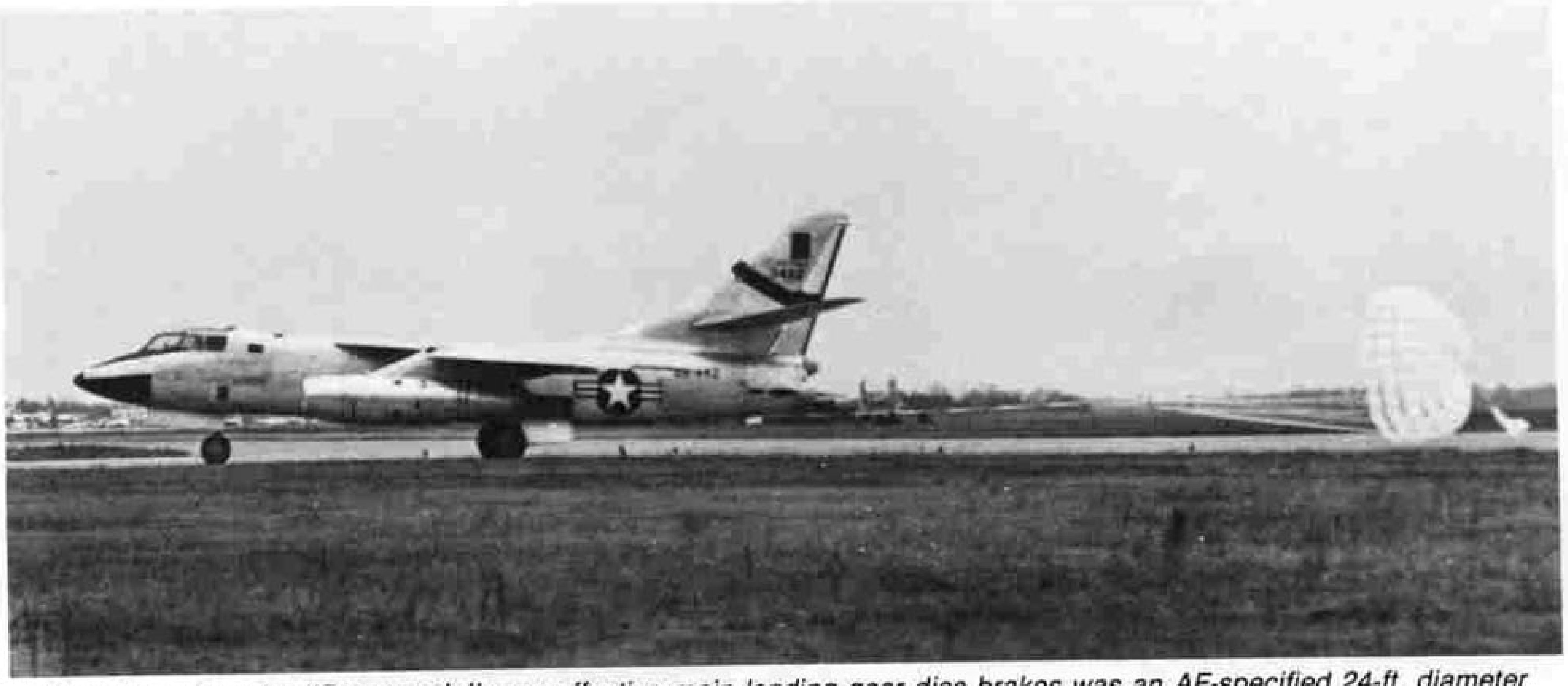
The right main gear in its retracted position. The shoulder-mounted wing configuration of the "Destroyer", along with the aircraft's inherently large bomb bay, resulted in the need to retract the main gear aft into relatively tight, cluttered wells. The gear retracted at an angle, entering the well at almost 45°.


MDC

MDC

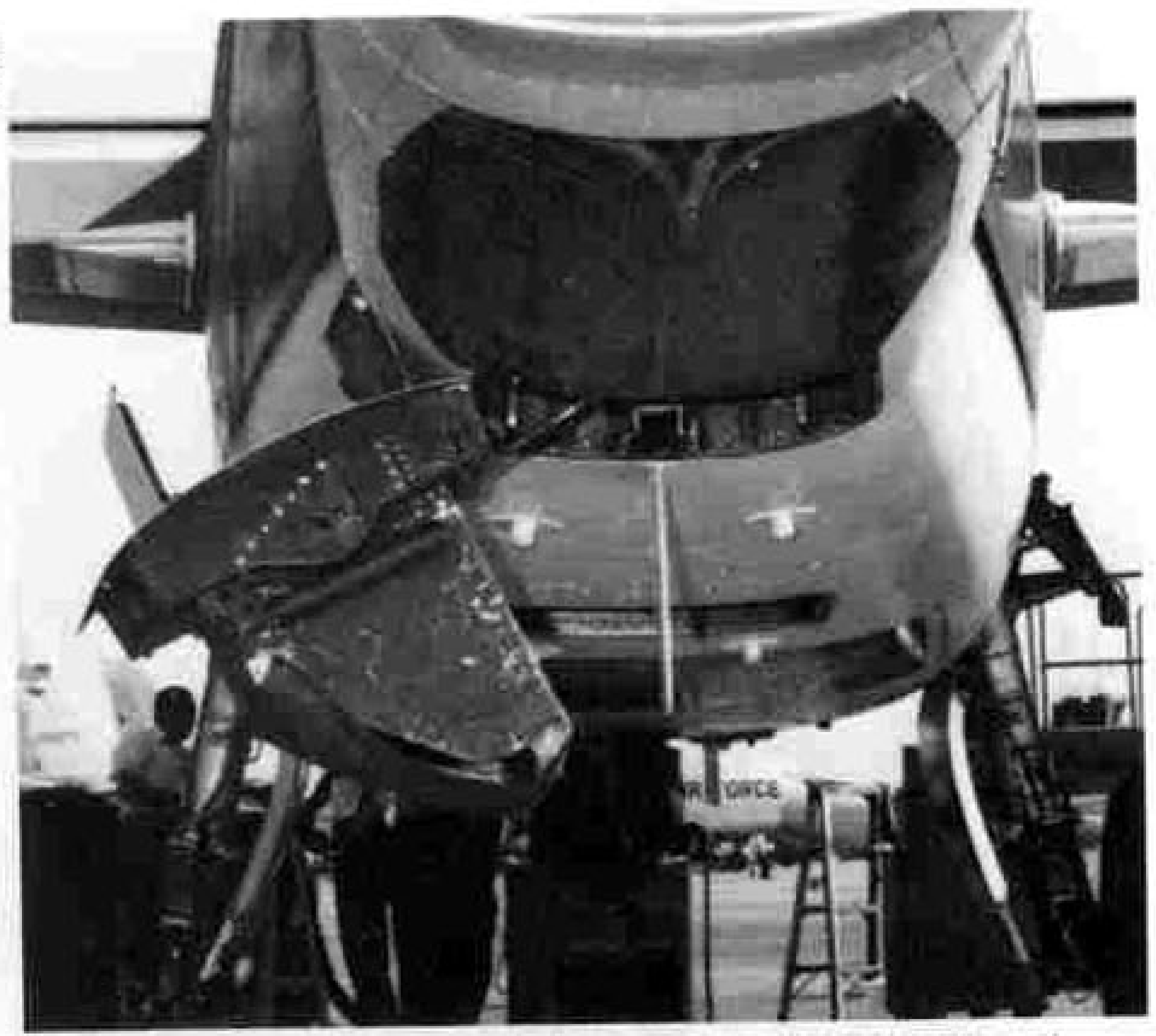
Left and right main gear strut hinge assemblies looking forward. The hinge mechanisms appeared to be relatively complex, but their actual mechanics and geometries were not. A single hydraulic ram, located inside the fuselage, retracted each main gear unit via a scissor assembly at the top of each strut. As the ram pulled the scissor assembly in, this forced the gear to rotate on its hinge and into the well. A series of mechanical links then closed the gear well doors.


OPERATION OF MAIN GEAR
(VIEW LOOKING AFT)



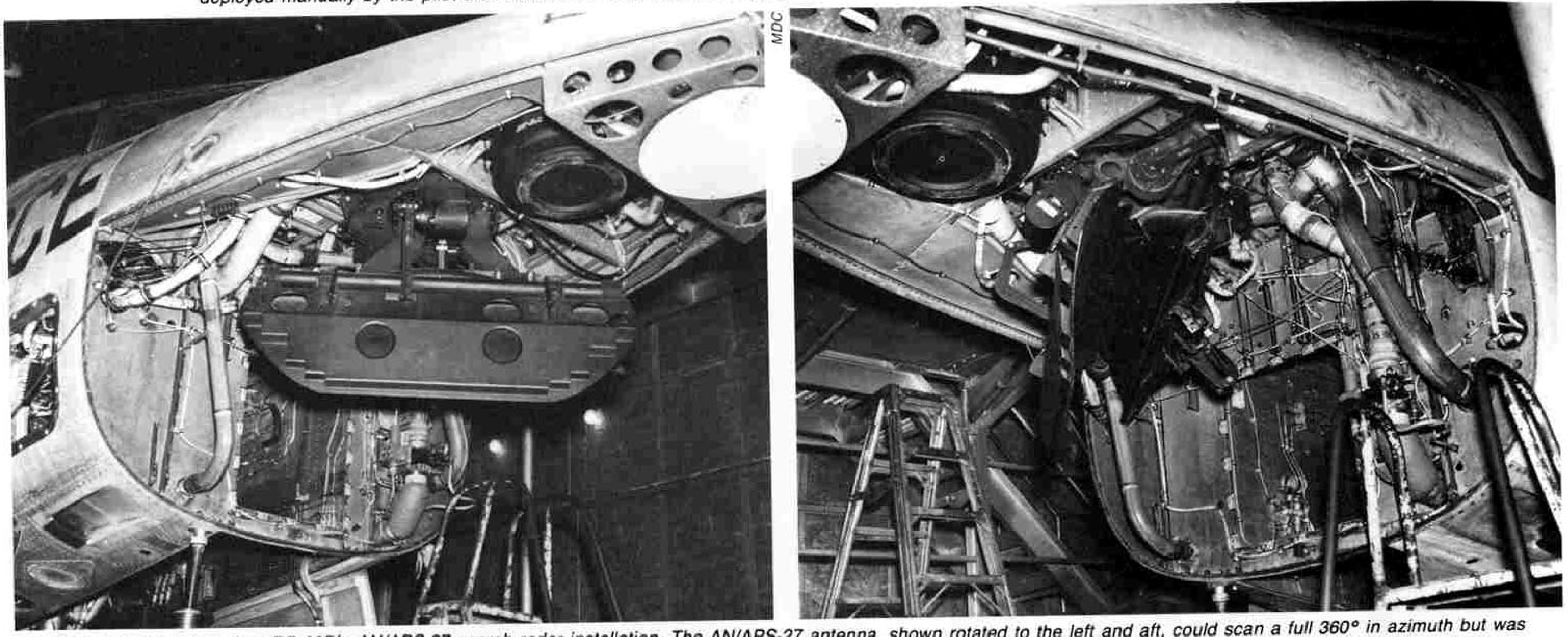
Aerofax, Inc. collection

Complementing the "Destroyer's" very effective main landing gear disc brakes was an AF-specified 24-ft. diameter ring-slot-type deceleration drag chute. Packed in a small ventral cannister in the empennage, it was deployed manually by the pilot after all three wheels were on the ground.



MDC

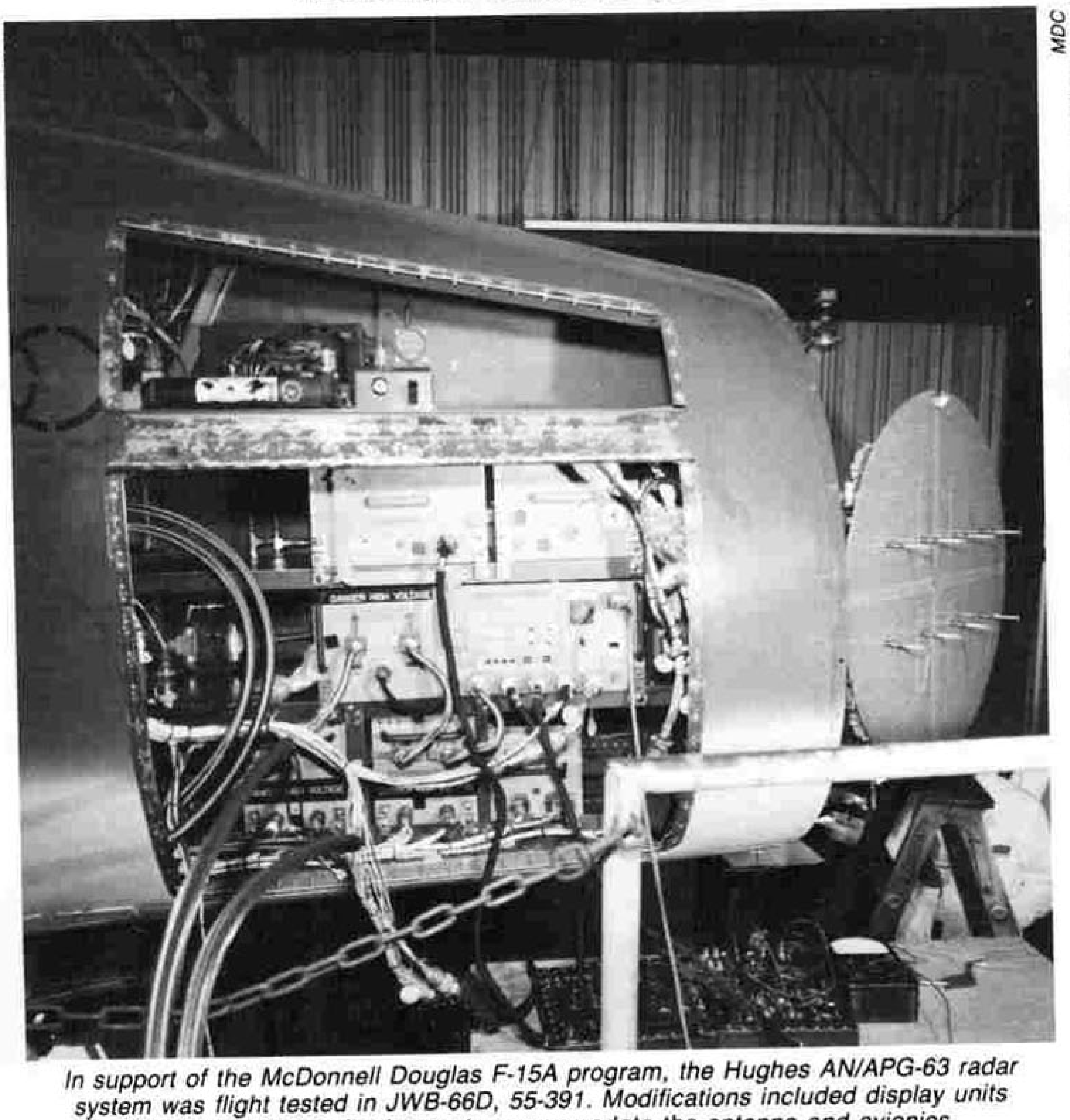
The drag chute cannister was mounted in the aft portion of the fuselage. A hinge assembly allowed it to be rotated into a near-vertical position for reloading.



MDC

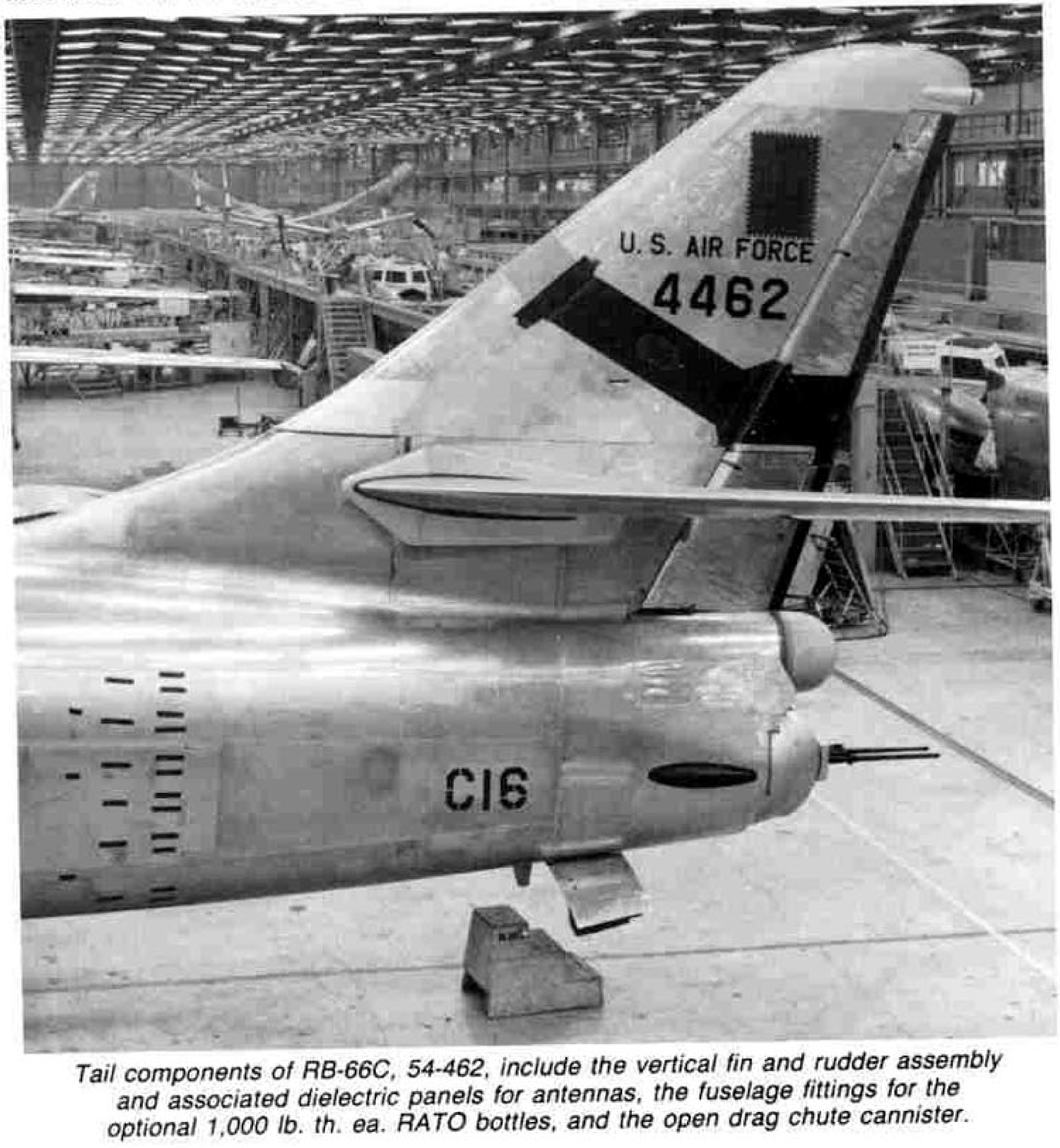
MDC

Right and left views of an RB-66B's AN/APS-27 search radar installation. The AN/APS-27 antenna, shown rotated to the left and aft, could scan a full 360° in azimuth but was limited in its coverage of the aft 120° sector at low depression angles. The black, cylindrical AN/APS-27 modulator assembly is visible just in front of the radar dish. The circular, white antenna forward of the modulator assembly was associated with the AN/ALT-6B, -7, and/or -8B jamming systems.



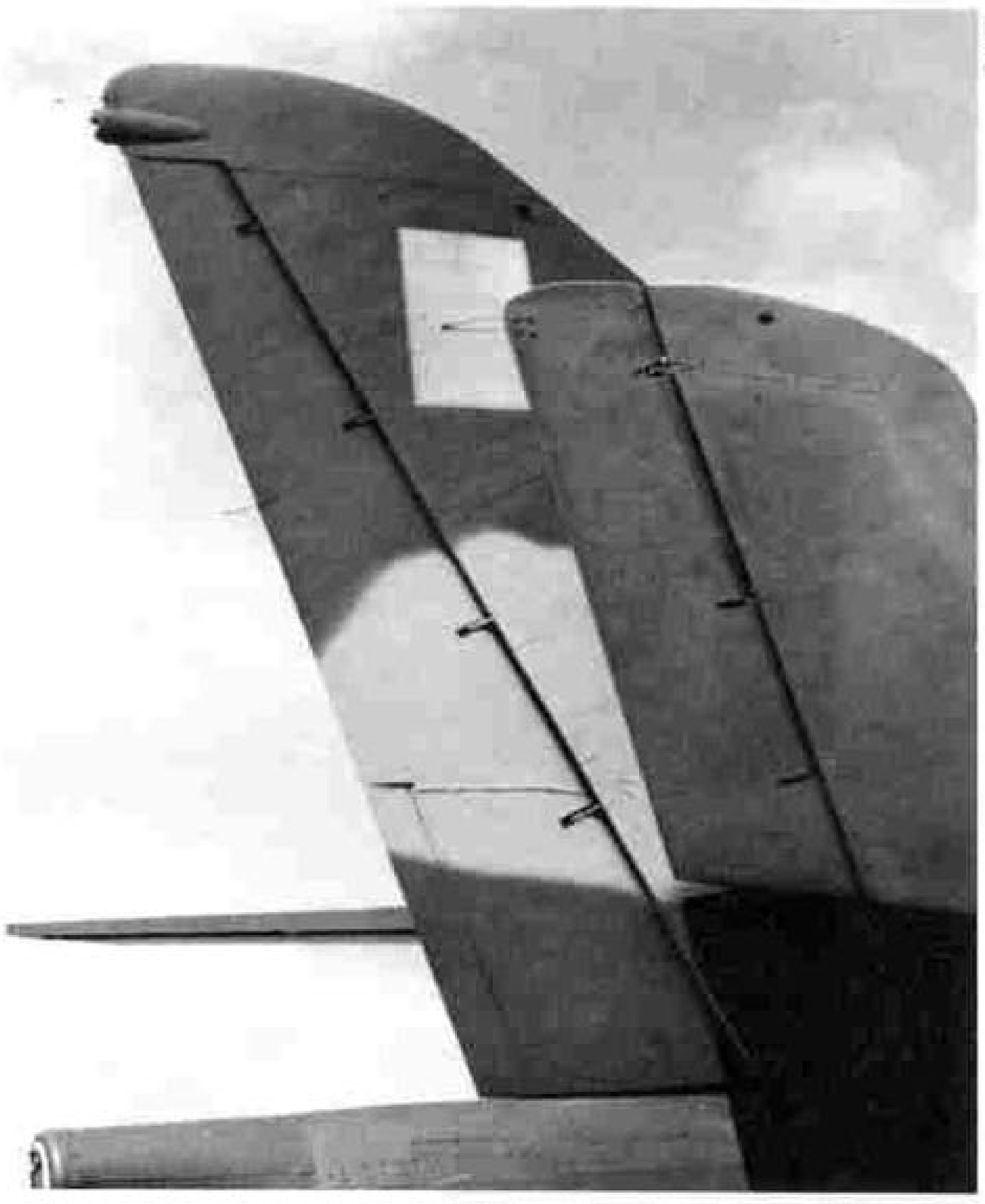
Hughes

In support of the McDonnell Douglas F-15A program, the Hughes AN/APG-63 radar system was flight tested in JWB-66D, 55-391. Modifications included display units internally and a revised nose to accommodate the antenna and avionics.



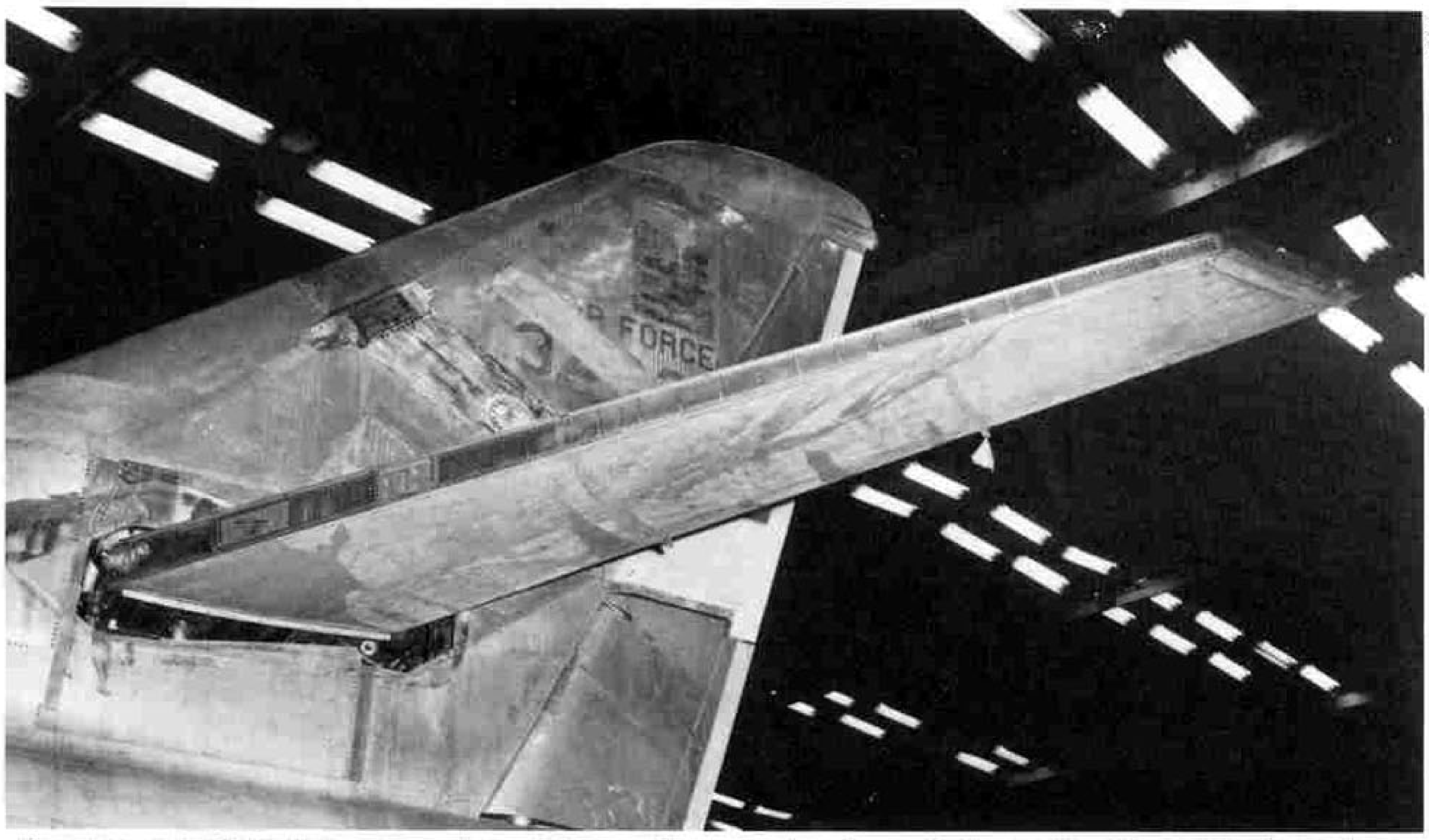
MDC

Tail components of RB-66C, 54-462, include the vertical fin and rudder assembly and associated dielectric panels for antennas, the fuselage fittings for the optional 1,000 lb. th. ea. RATO bottles, and the open drag chute cannister.



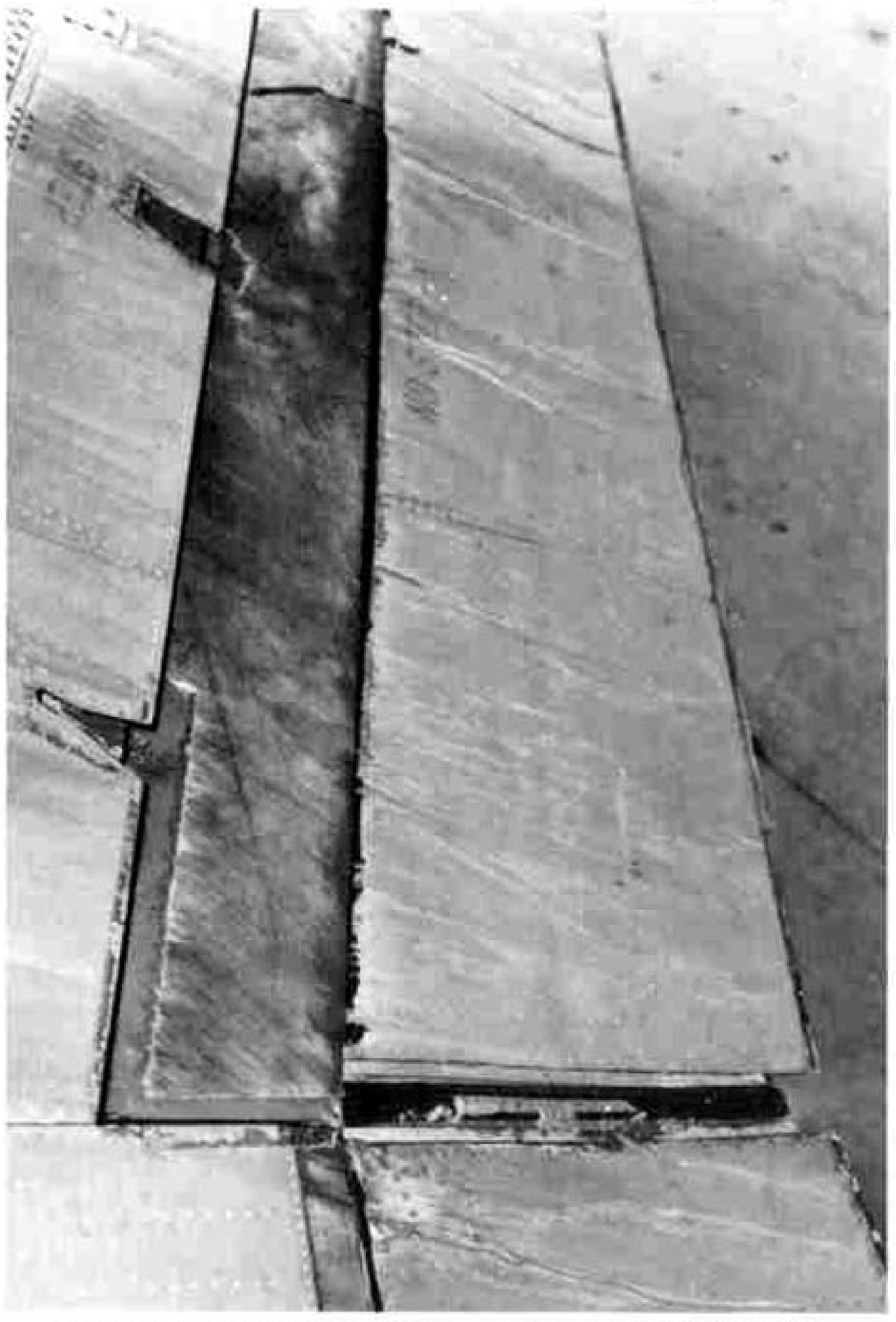
MDC

The hydraulically-boosted rudder assembly was hinged at four positions. A small electrically-actuated trim surface was attached to the lower trailing edge.



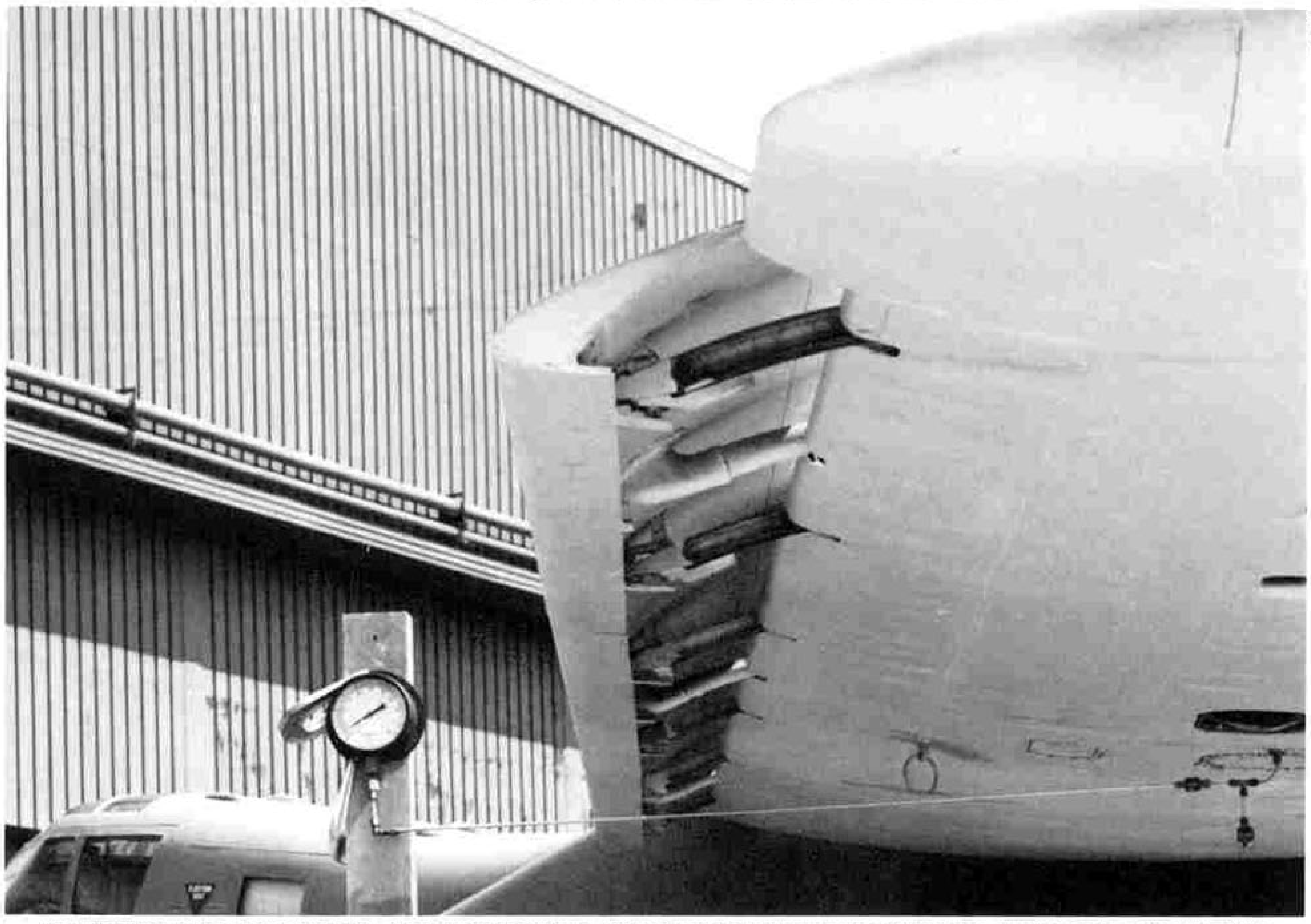
MDC

The horizontal stabilizer box is seen during "Destroyer" over-haul at Douglas' Tulsa facility. The stabilizer's incidence was electrically controlled. The elevators, which are not shown, were hydraulically boosted. A single hinge assembly at the trailing edge of the box was mounted inside the vertical fin.



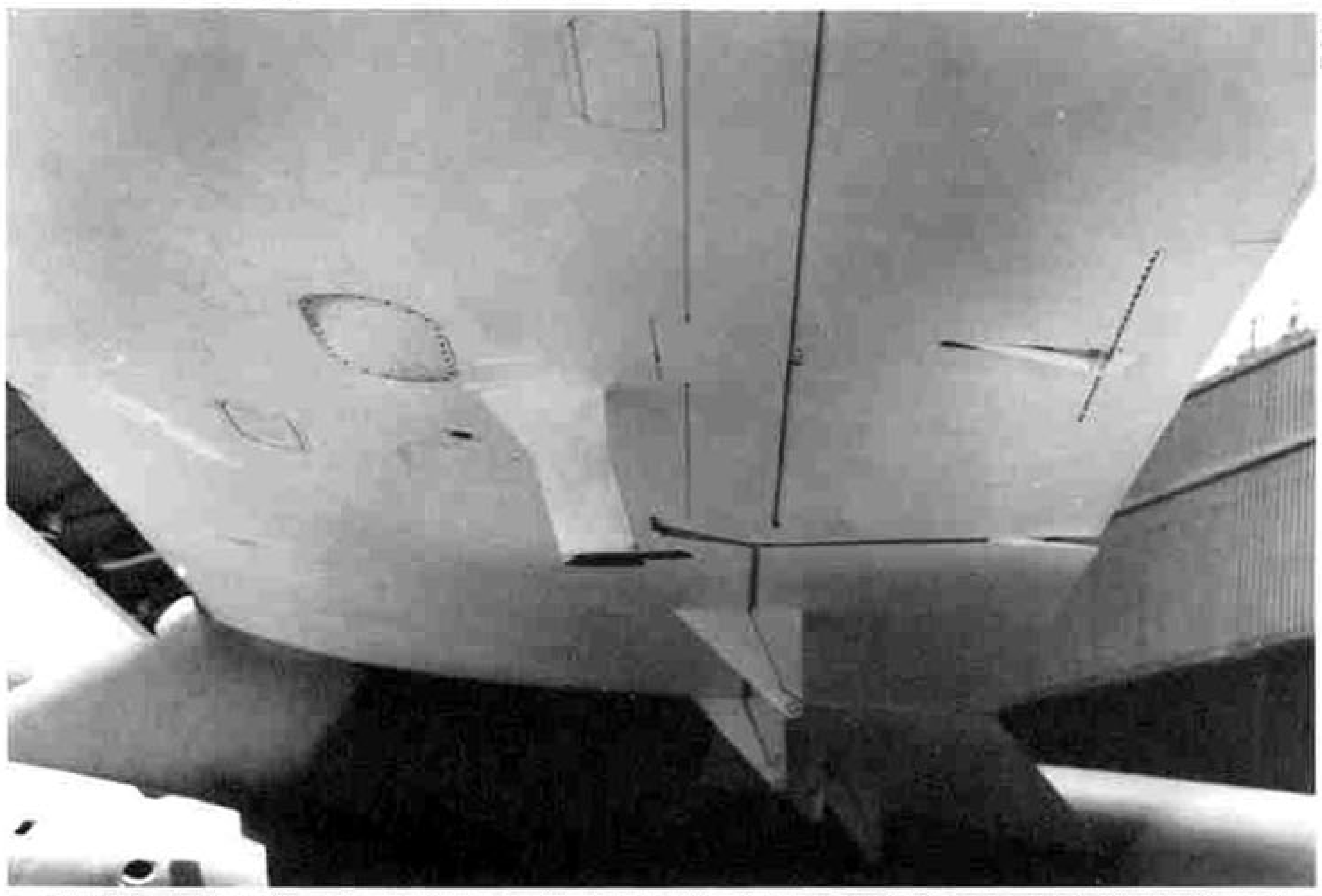
MDC

Upper surface view of the wing aileron/flap/spoiler junction. A pair of rubber gap sealers prevented airflow leakage between flaps and ailerons.



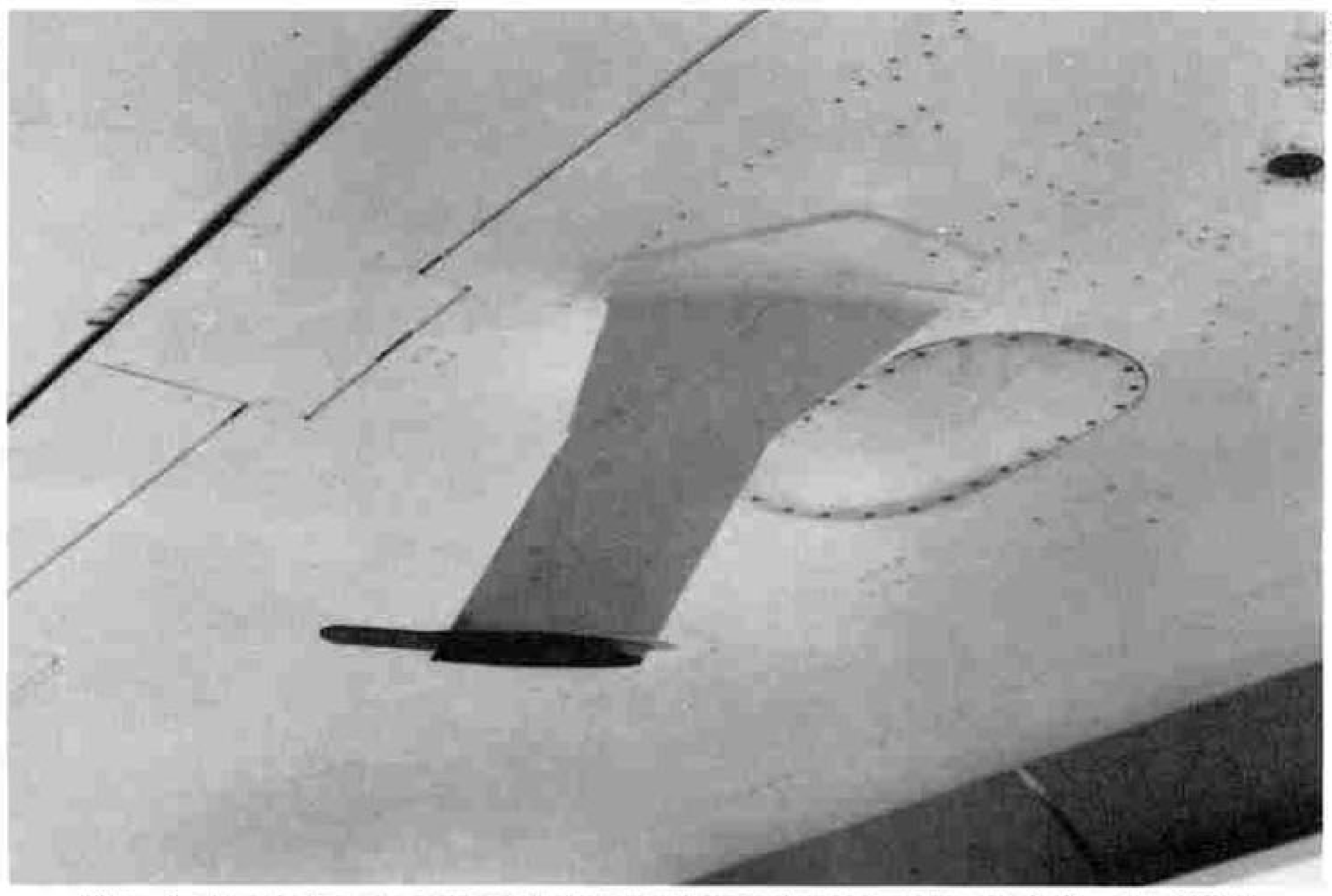
MDC

The leading edge slat assembly had three sections. These extended spanwise from the engine pylons to the wing tips. Actuation was automatic and dependent upon aerodynamic forces. When the aircraft was static the slats rolled open. Some "Destroyers" had the outboard slat sections slightly extended at all times.



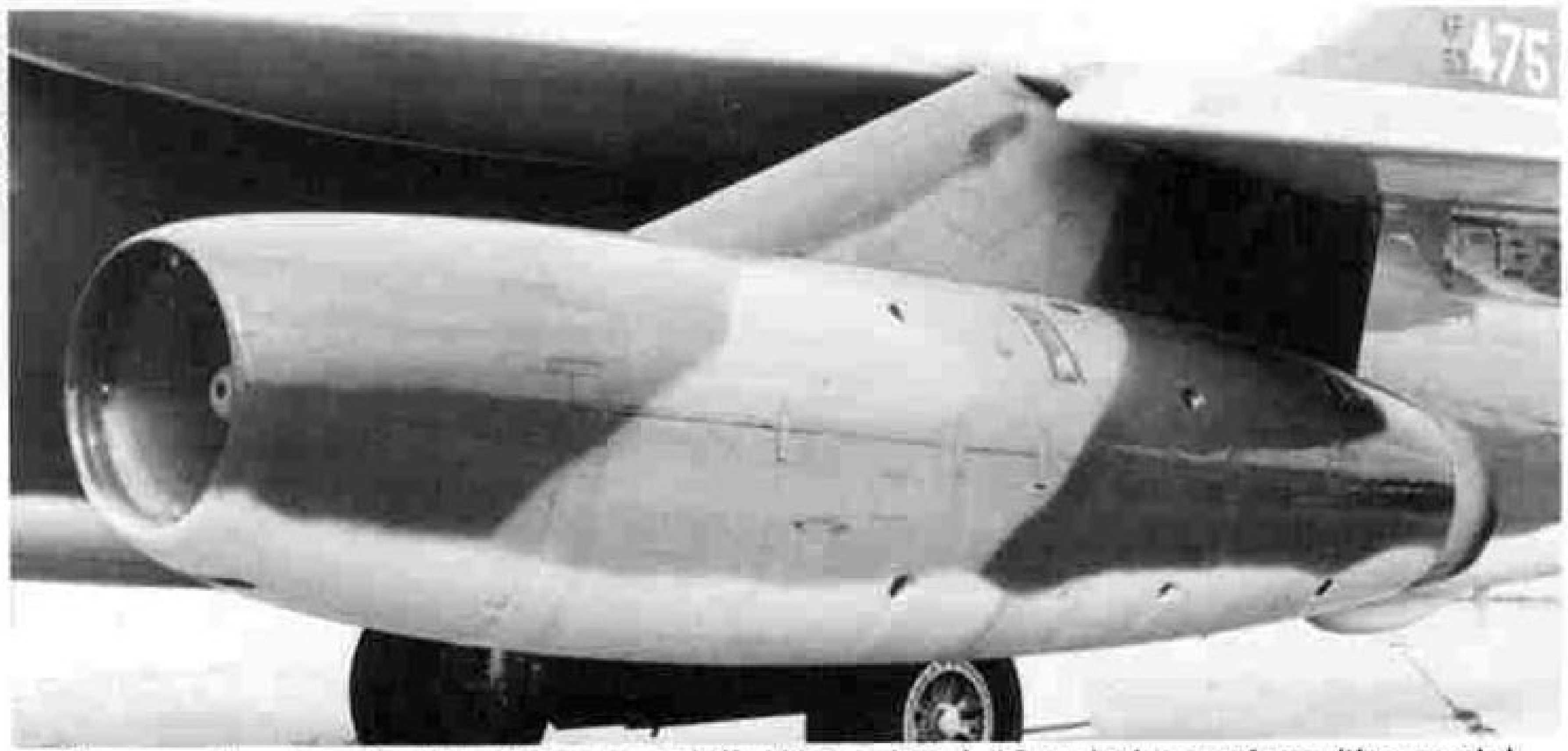
MDC

All "Destroyers" were equipped with hydraulically boosted ailerons and single-slotted hydraulic flaps divided into inboard and outboard segments. Each aileron was equipped with a single trailing edge trim tab.

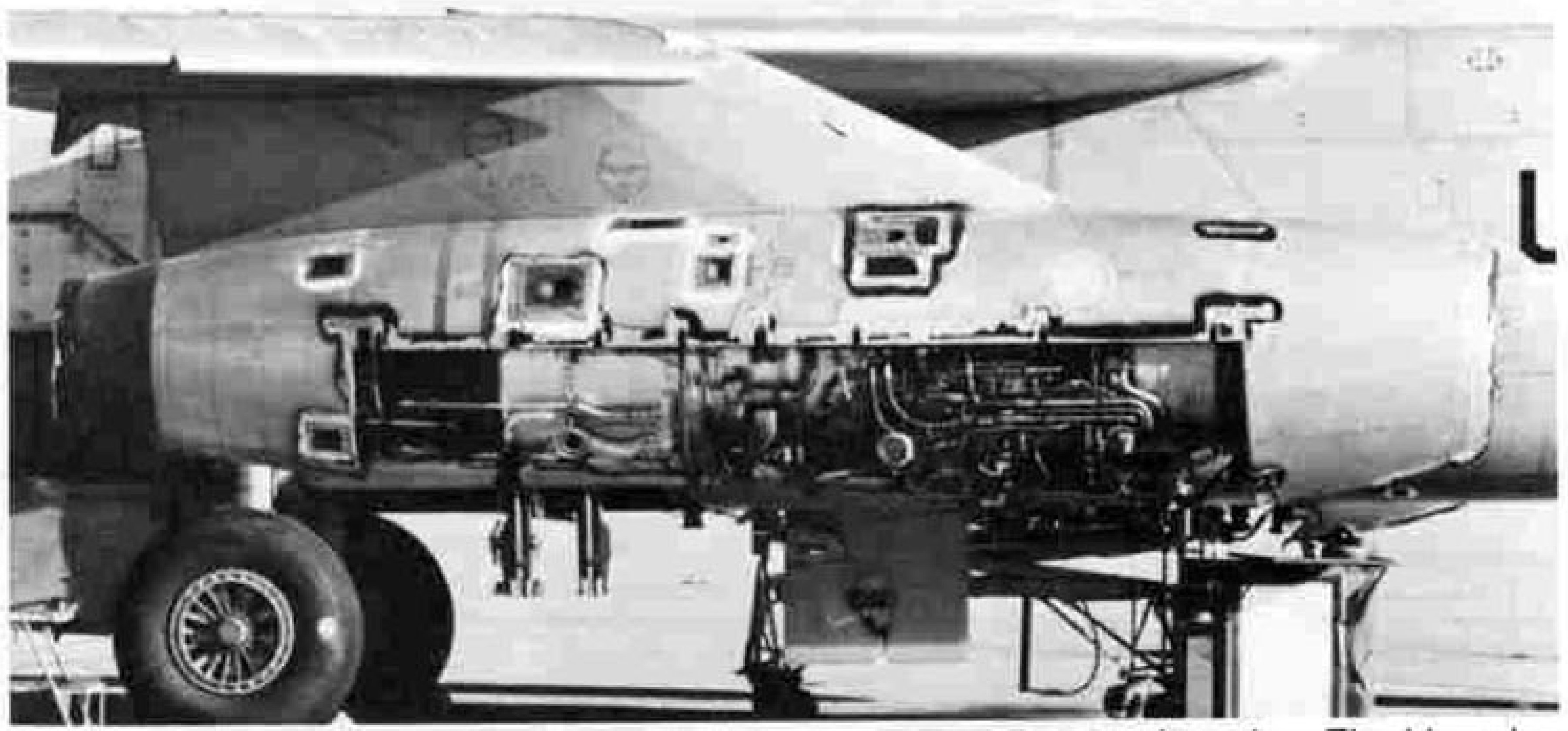


MDC

Wing fuel tank dump masts were located beneath each wing at station Xw 375.5. These were installed on "Destroyers" per TCTO 1B-66-970. Fuel dumping was exercised usually in emergency situations only and was pilot initiated.


George Cockie

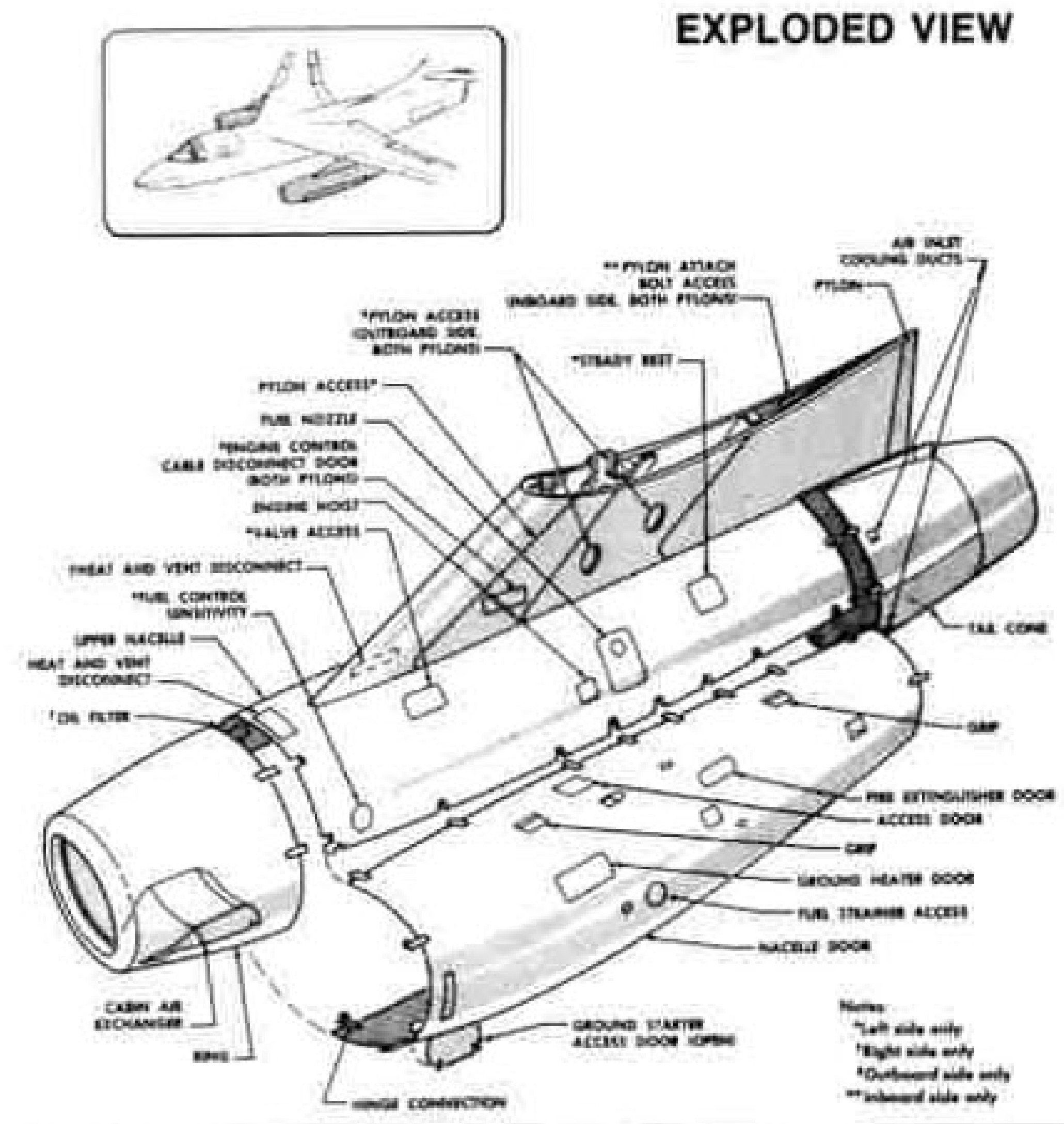
The nacelles housing the "Destroyer's" Allison J71-A-13 turbojet engines (the model found on late-model "Destroyers") were exceptionally clean and much slimmer than those of its Navy contemporary, the Douglas A3D "Skywarrior".

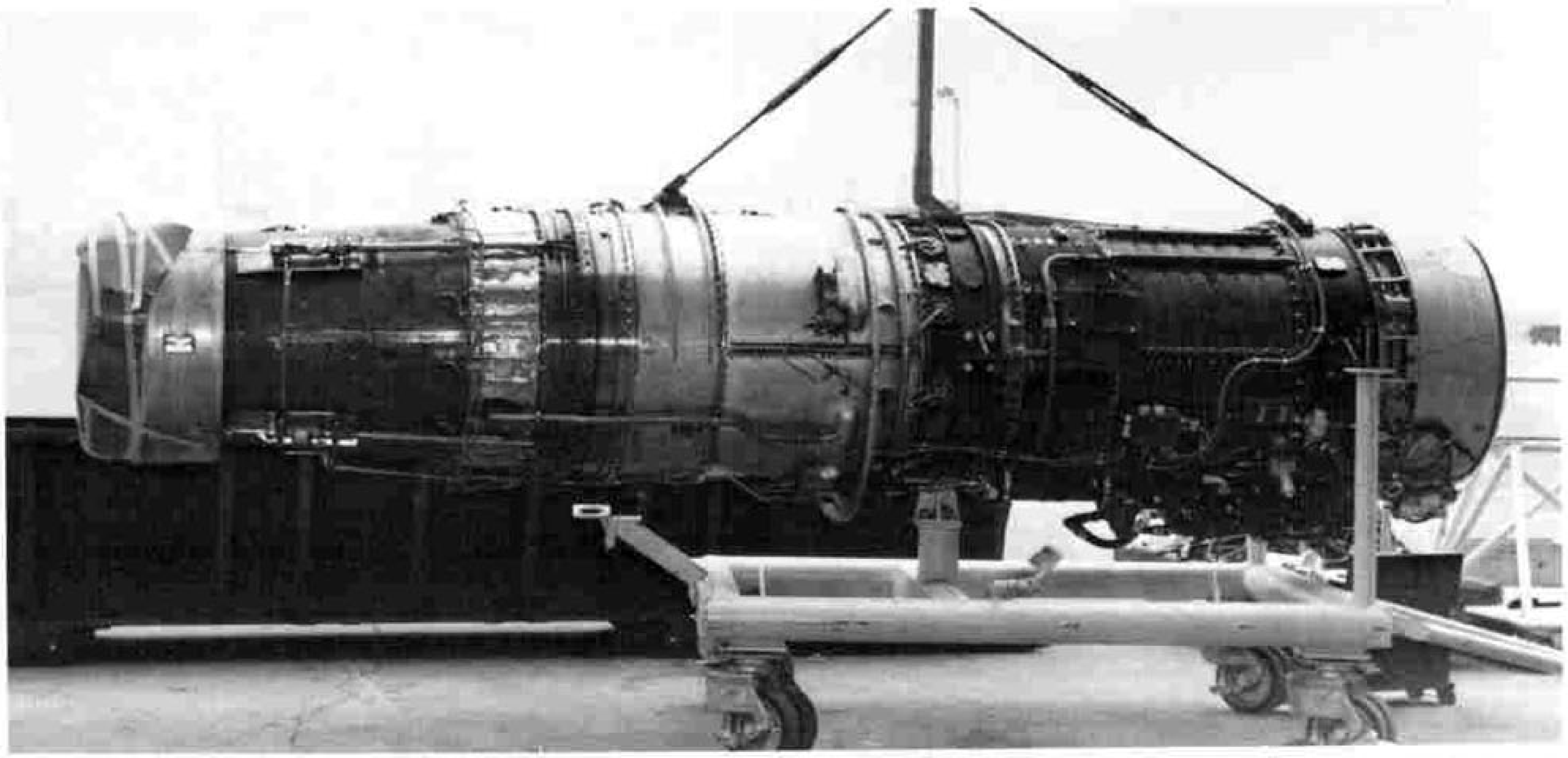

Norm Taylor

The upper section of each nacelle was permanently attached to its pylon. The hinged lower panel provided access for routine maintenance. The engine and principal accessories could be removed and replaced in about 75 minutes.

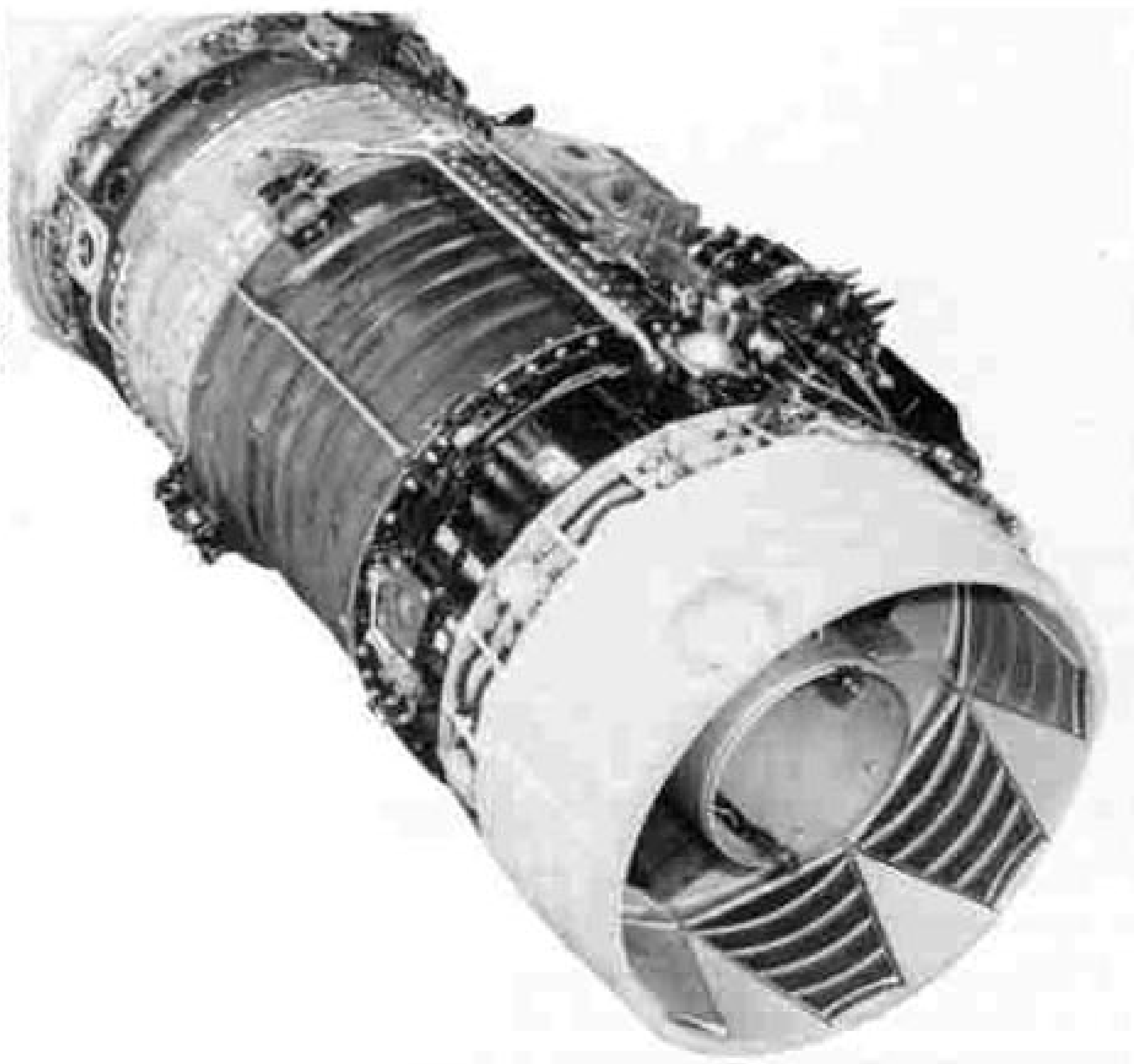
NACELLE AND ENGINE PYLON ASSEMBLY

EXPLODED VIEW

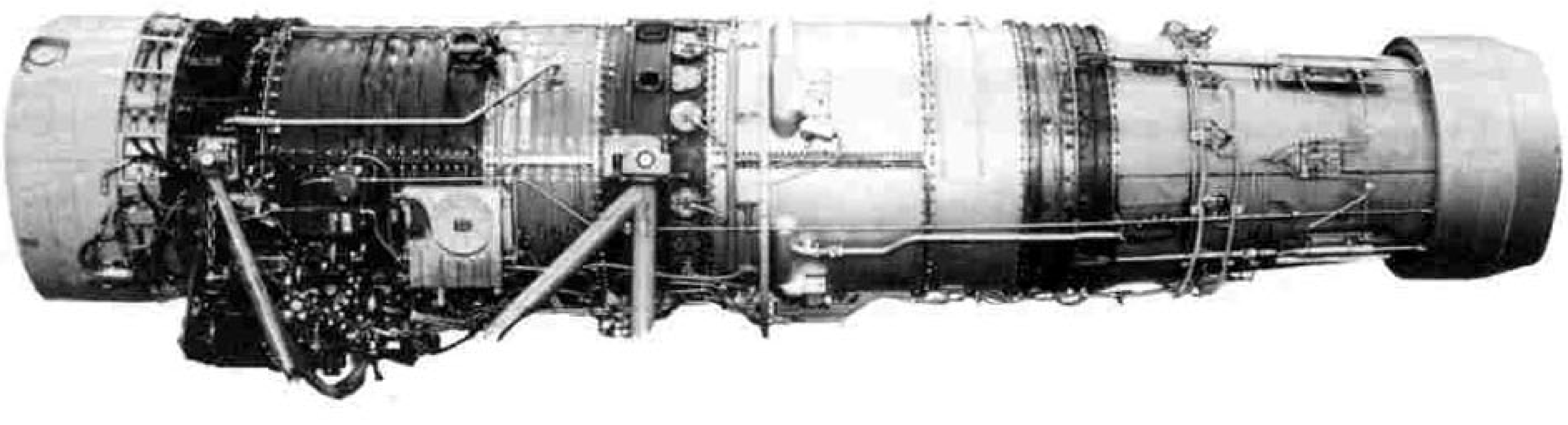



MDC

Douglas received its first Allison YJ71-A-9 (shown) at the company's Long Beach plant on September 15, 1953, some nine months before the first RB-66A was ready to fly. Early J71 versions proved problem-plagued and even after the arrival of improved versions, the type never proved as reliable as the Navy "Skywarrior's" J57.

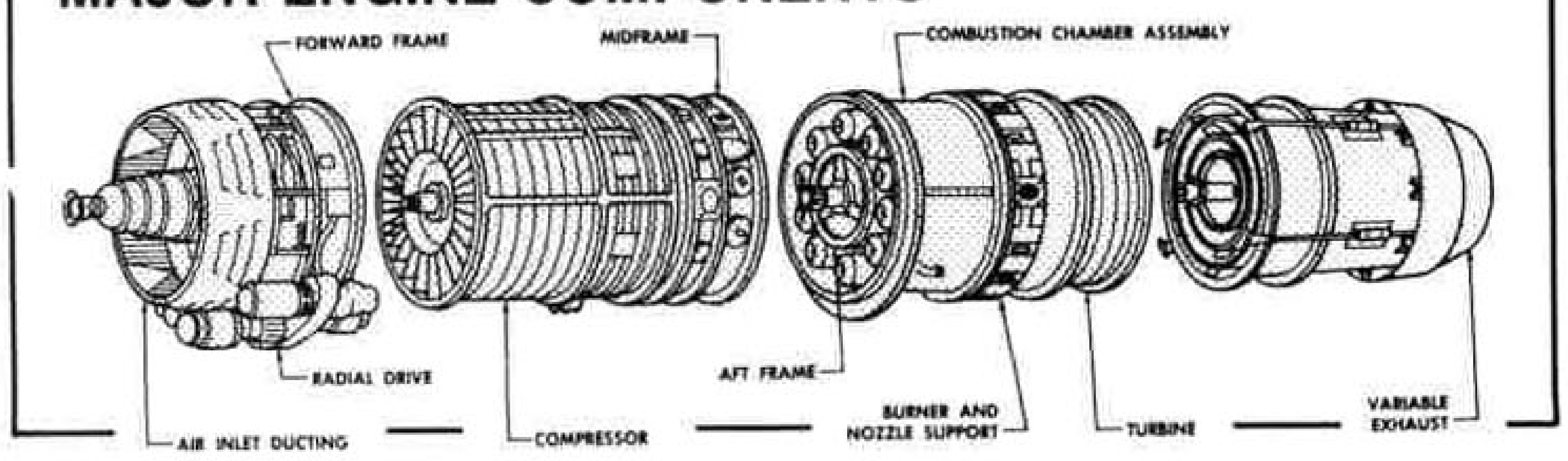

General Motors/Allison

In order to prevent foreign object damage, early J71s were fitted with electrically-operated retractable intake screens (seen retracted).

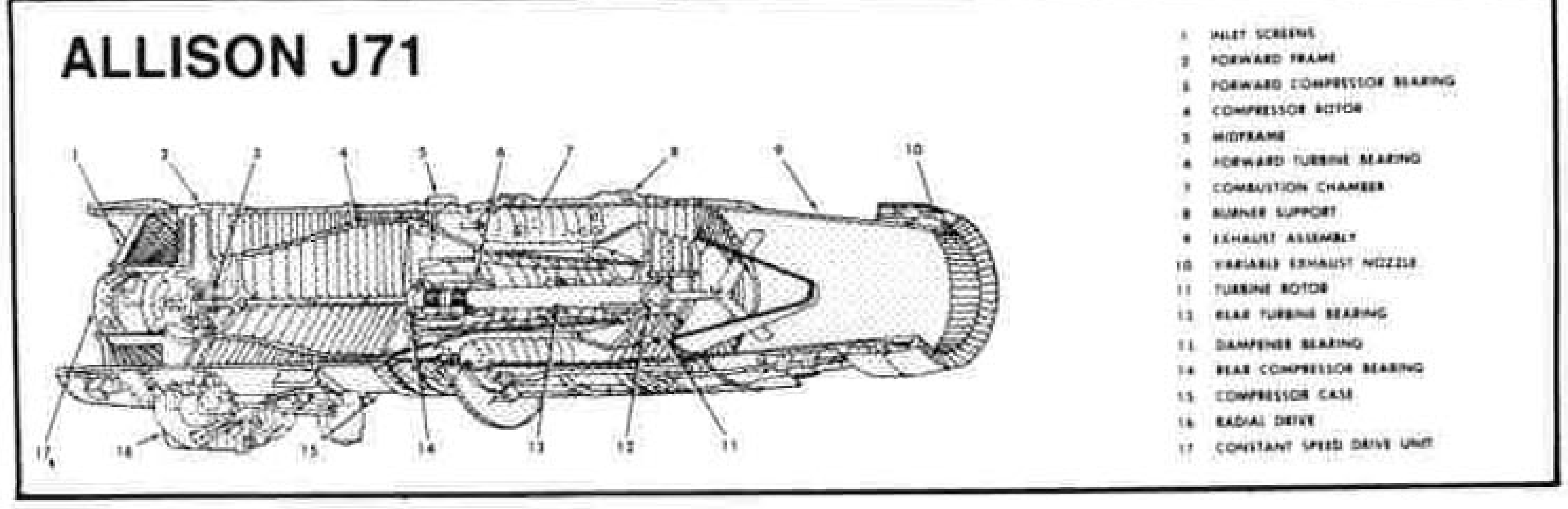

General Motors/Allison

Due to demand for the Pratt & Whitney J57, the Allison J71-A-13, a 16-stage, axial-flow turbojet engine with a sea-level static th. rating of 10,200 lbs. (4,400 kg.), was chosen for the "Destroyer". It was 191.4 in. (4.86 m.) long and had a diameter of 39.5 in. (1.00 m.). The exhaust nozzle was variable, but the engine was not afterburner equipped.

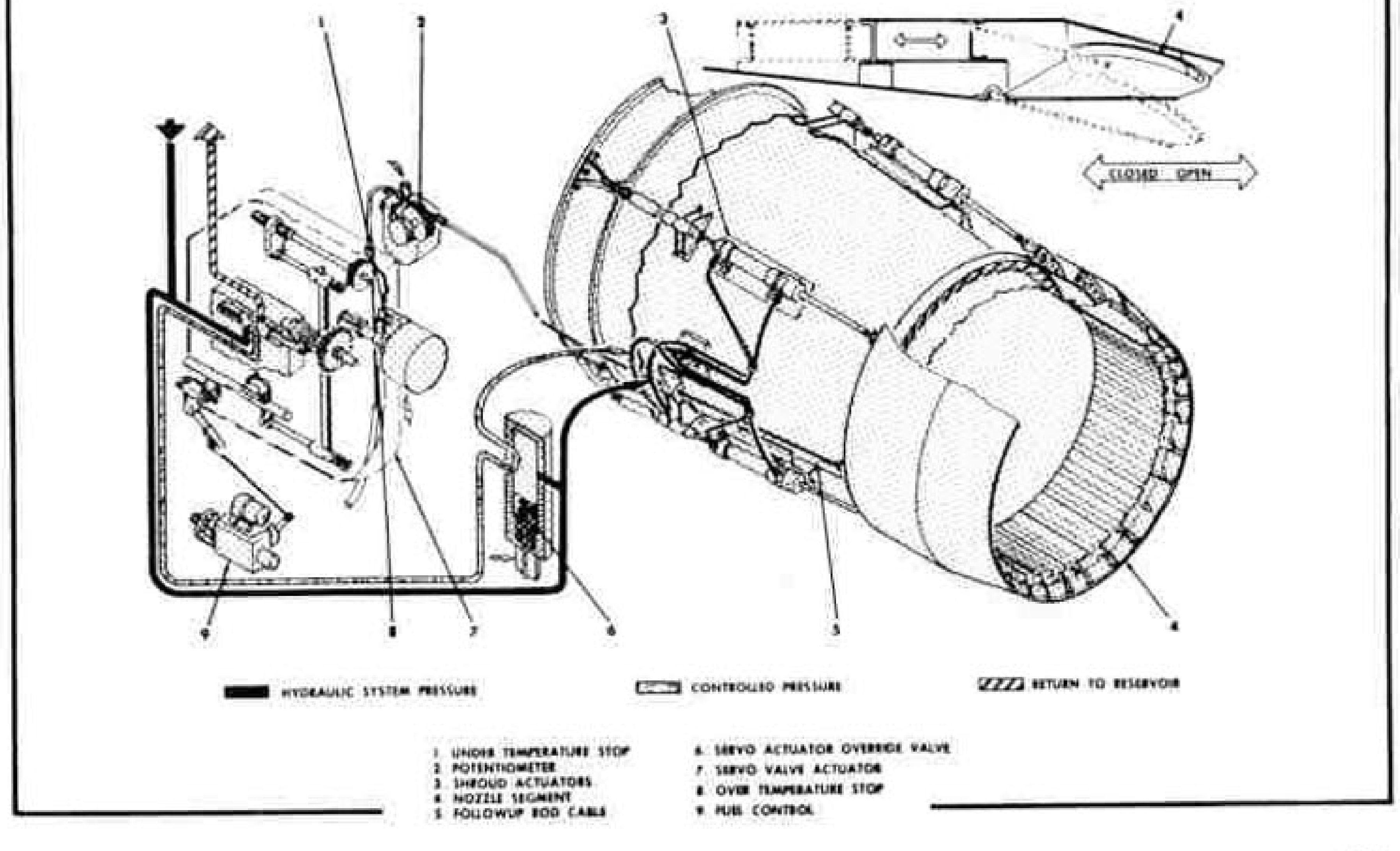
MAJOR ENGINE COMPONENTS



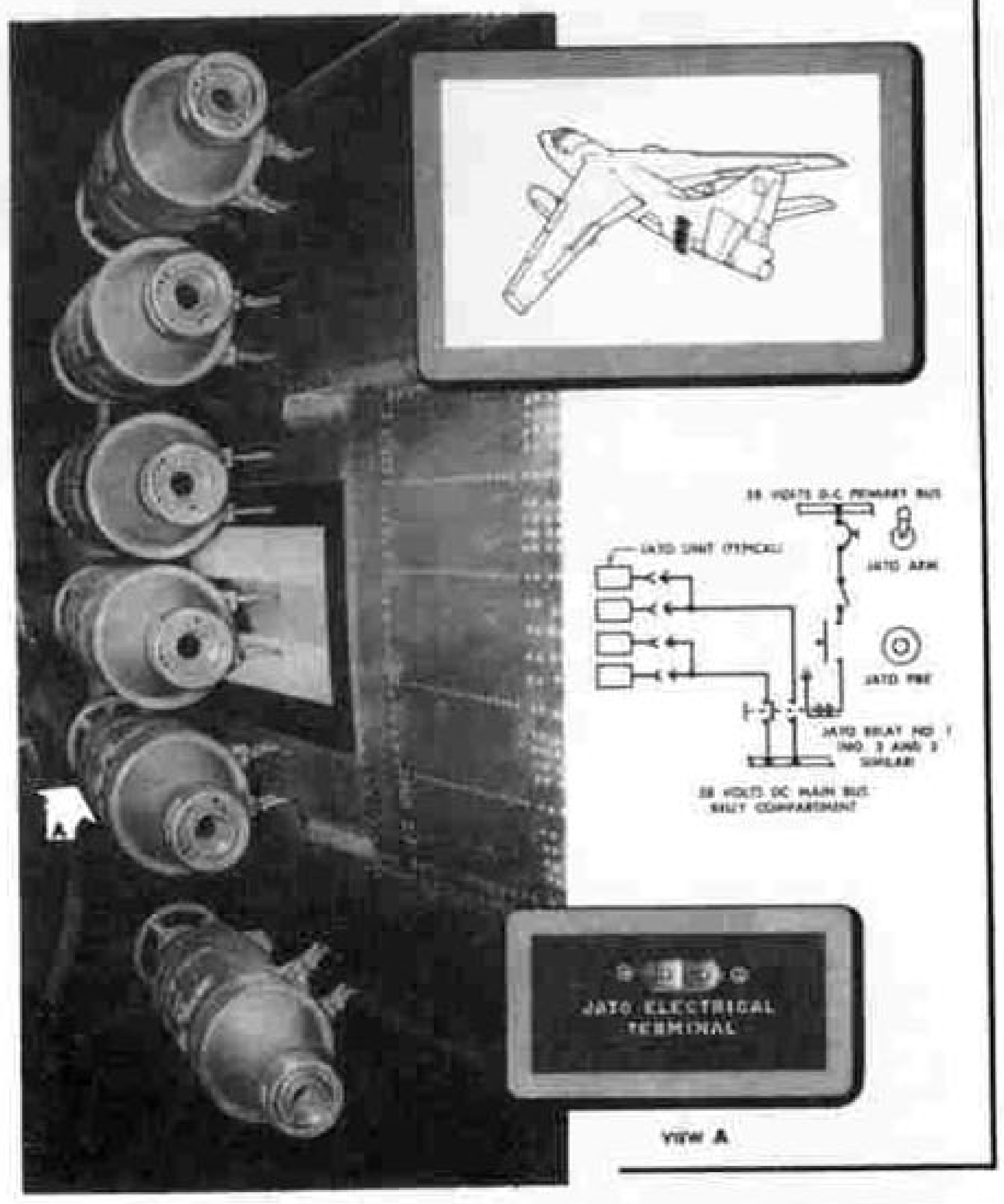
ALLISON J71

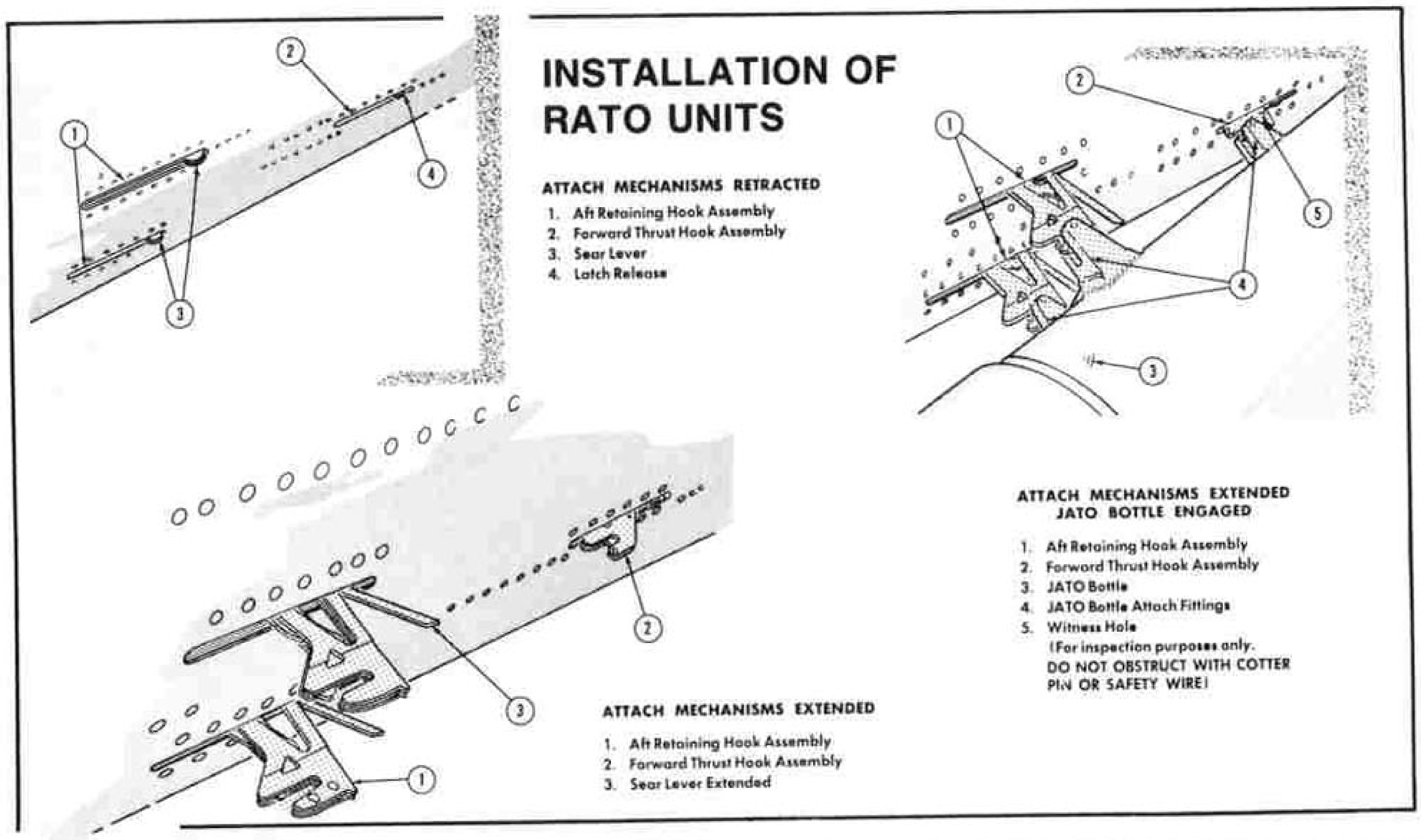


VARIABLE EXHAUST NOZZLE ACTUATING SYSTEM



INSTALLATION OF RATO UNITS





INSTALLATION OF RATO UNITS

ATTACH MECHANISMS RETRACTED

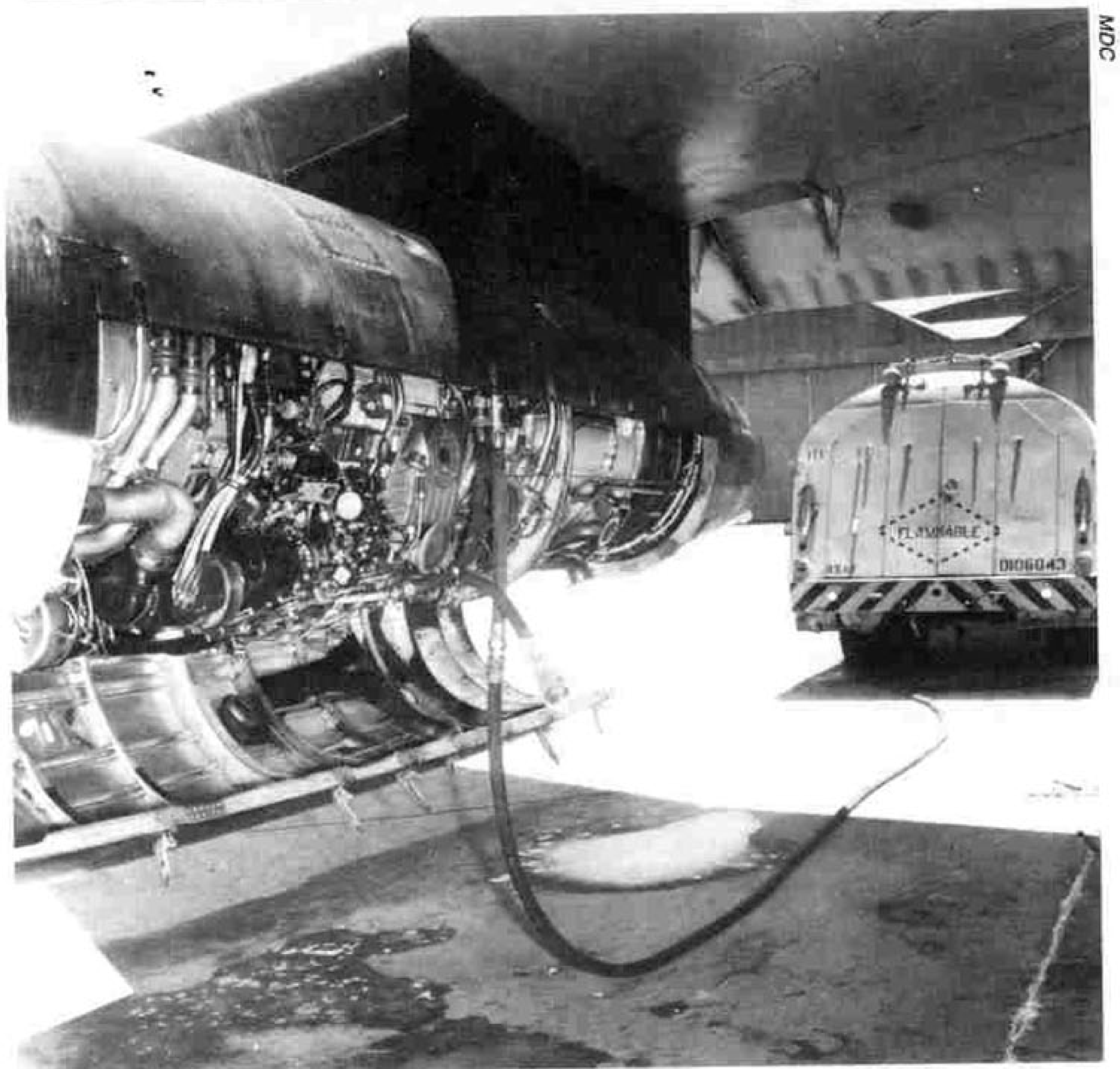
1. Aft Retaining Hook Assembly
2. Forward Thrust Hook Assembly
3. Sear Lever
4. Latch Release

ATTACH MECHANISMS EXTENDED

1. Aft Retaining Hook Assembly
2. Forward Thrust Hook Assembly
3. Sear Lever Extended

ATTACH MECHANISMS EXTENDED JATO BOTTLE ENGAGED

1. Aft Retaining Hook Assembly
2. Forward Thrust Hook Assembly
3. JATO Bottle
4. JATO Bottle Attach Fittings
5. Witness Hole
   (For inspection purposes only. DO NOT OBSTRUCT WITH COTTER PIN OR SAFETY WIRE)


MDC

Fuel could be drained from the "Destroyer" by disconnecting a main engine fuel line and attaching an external line for extraction purposes. Single-point refueling was possible to accommodate the aircraft's 5,312 gallon capacity.

MDC

Though some early "Destroyers" rolled off Douglas production lines without refueling probes, later aircraft were built with them in place and updates installed probes in many of the aircraft that did not have them.

MDC

Fitted with the standard MA-2 nozzle, the "Destroyer's" right-side-of-nose-mounted probe extended some 6 ft. (1.83 m.) beyond the aircraft's nose tip and permitted air refueling at a maximum rate of 600 gallons per minute.

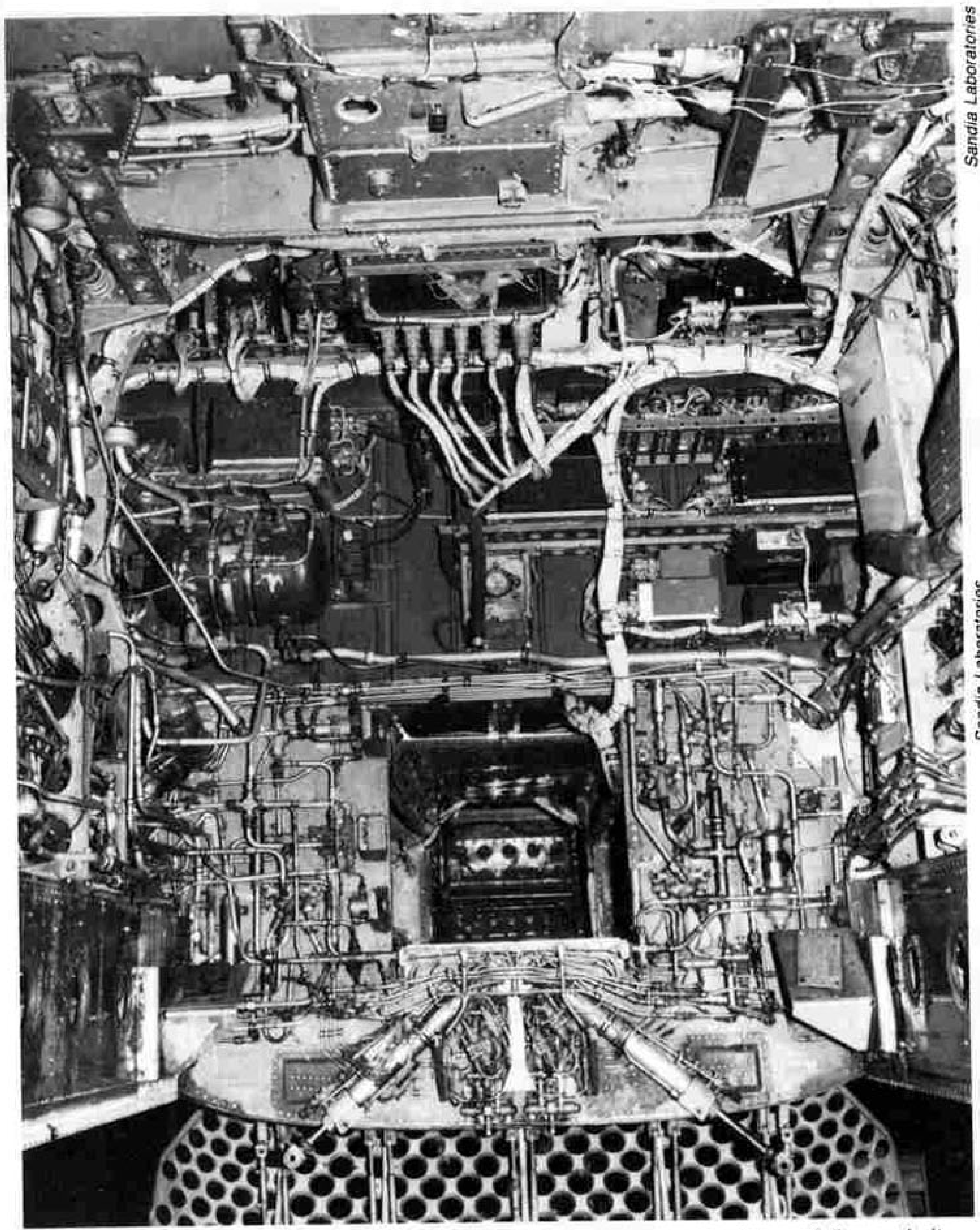
FUEL QUANTITY DATA TABLE

FUEL AT 6.5 LB/GAL (BASED ON STANDARD DAY CONDITIONS)

TANK	MODEL	USABLE FUEL (LEVEL FLIGHT) THROUGH INDIVIDUAL SERVICING PORTS		USABLE FUEL (LEVEL FLIGHT) SINGLE POINT REFUELING		FULLY SERVICED THROUGH INDIVIDUAL SERVICING PORTS		FULLY SERVICED SINGLE POINT REFUELING	
		(U.S. GALLONS)	(POUNDS)	(U.S. GALLONS)	(POUNDS)	(U.S. GALLONS)	(POUNDS)	(U.S. GALLONS)	(POUNDS)
AFT FUSELAGE	B RB E C D	2,320 1,878 1,842	15,080 12,207 11,973	2,200 1,800 1,800	14,300 11,700 11,700	2,338 1,885 1,852	15,197 12,253 12,038	2,218 1,807 1,810	14,417 11,746 11,765
FWD FUSELAGE	B RB E C D	675 1,123 1,071	4,388 7,300 6,962	631 1,031 1,031	4,100 6,700 6,700	678 1,128 1,074	4,407 7,332 6,981	634 1,036 1,034	4,121 6,734 6,721
LEFT WING	B RB E C D	744 744 736	4,836 4,836 4,784	723 708 708	4,700 4,600 4,600	752 752 742	4,888 4,888 4,823	731 716 716	4,752 4,654 4,654
RIGHT WING	B RB E C D	744 744 736	4,836 4,836 4,784	723 708 708	4,700 4,600 4,600	752 752 742	4,888 4,888 4,823	731 716 716	4,752 4,654 4,654
TOTAL FUEL (WITHOUT EXTERNAL TANKS)	B RB E C D	4,483 4,489 4,385	29,140 29,179 28,503	4,277 4,247 4,247	27,800 27,600 27,600	4,520 4,517 4,410	29,380 29,361 28,665	4,314 4,275 4,276	28,042 27,788 27,794
EXTERNAL TANKS (DROPPABLE) 2 TANKS AT 450 GAL EACH	B RB E C D	900 900 900	5,850 5,850 5,850			902 902 902	5,863 5,863 5,863		
TOTAL FUEL (WITH EXTERNAL TANKS)	B RB E C D	5,383 5,389 5,285	34,990 35,029 34,353	4,277 4,247 4,247	27,800 27,600 27,600	5,422 5,419 5,312	35,243 35,224 34,528	4,314 4,275 4,276	28,042 27,788 27,794

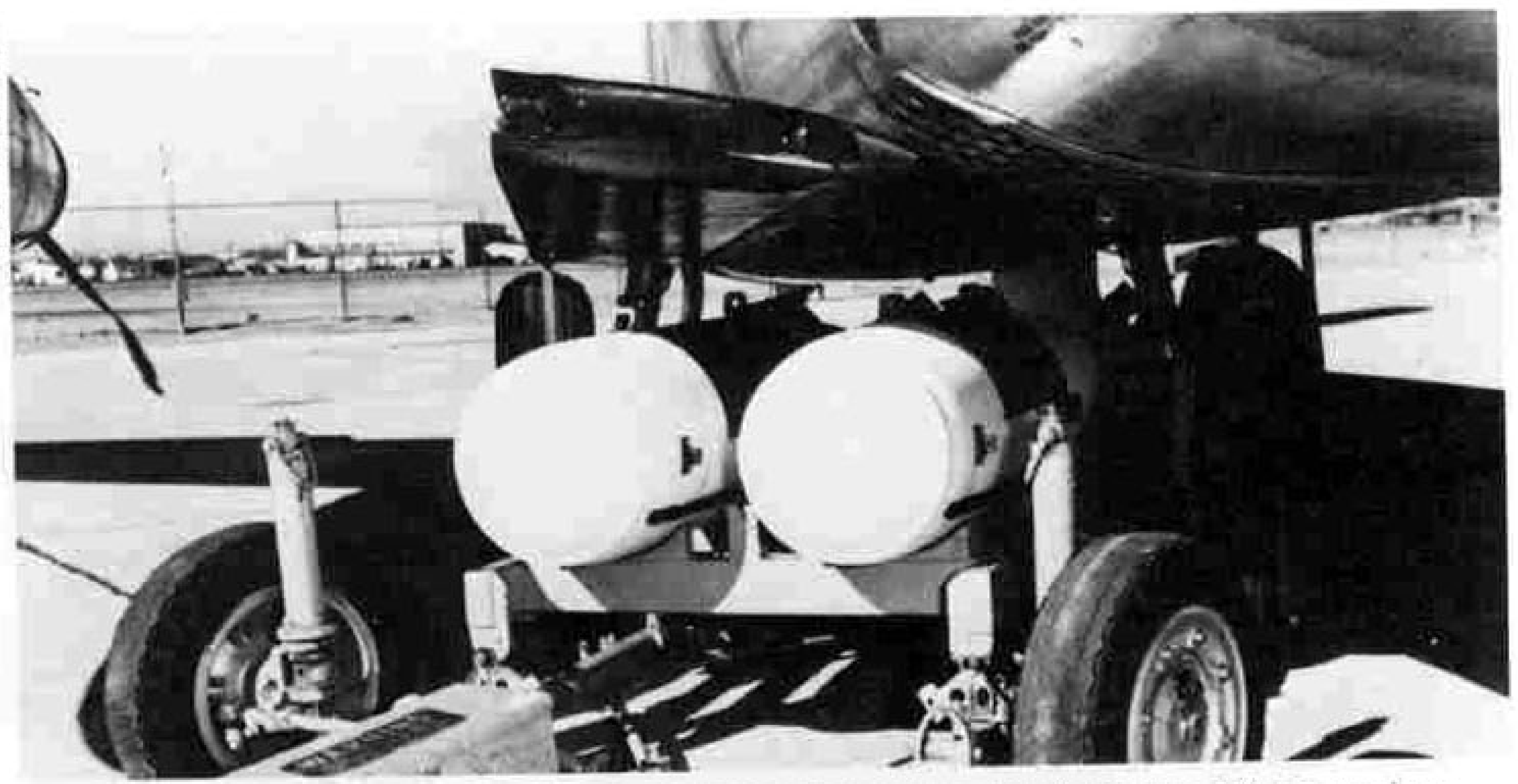
MDC

MDC



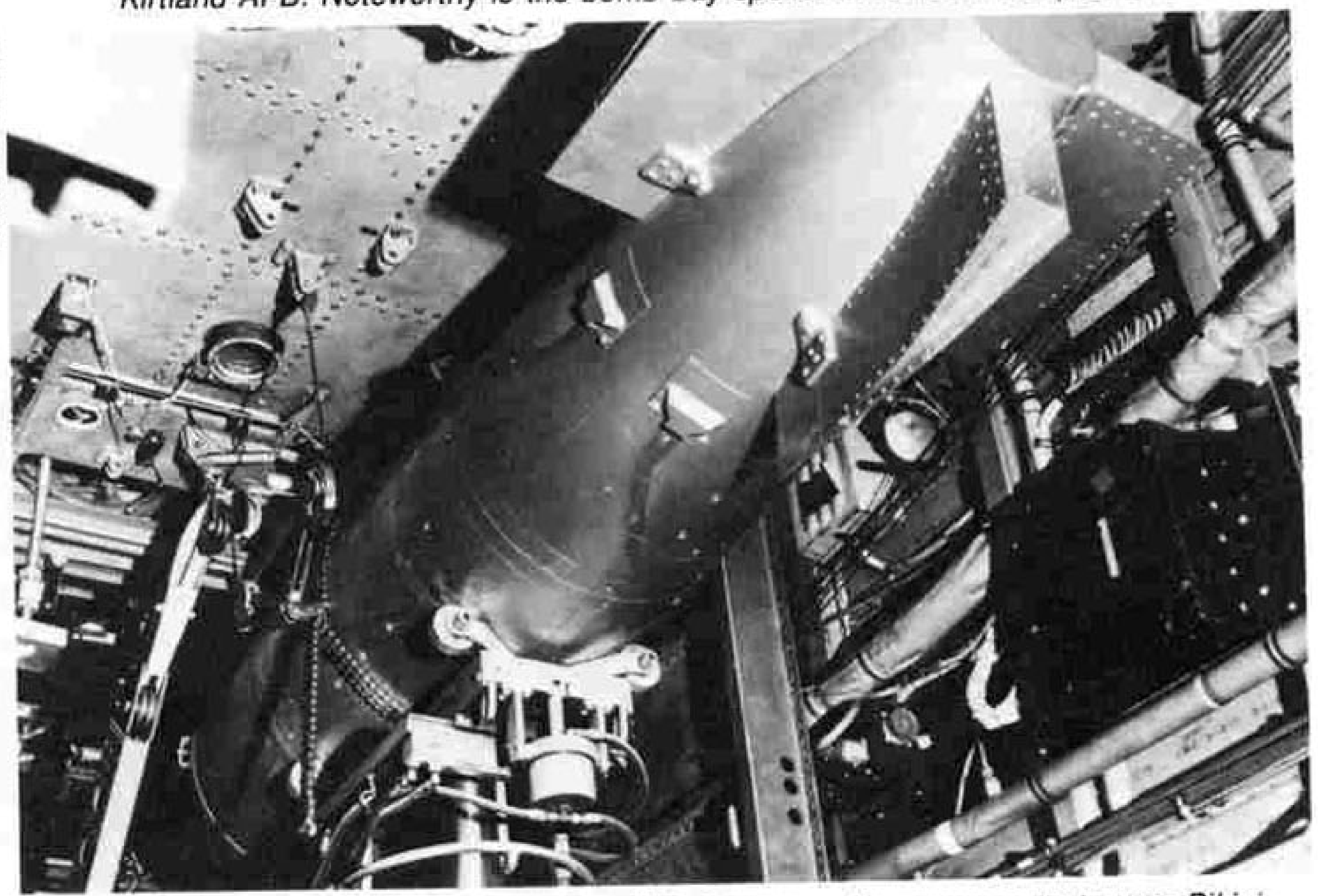
B-66B bomb bay, looking forward. The crawlway connecting the bay and the cockpit had been incorporated during the design phase as early nuclear weapons had to be accessed in flight. Visible are the spoiler and bay door hydraulic actuators.

Sandia Laboratories



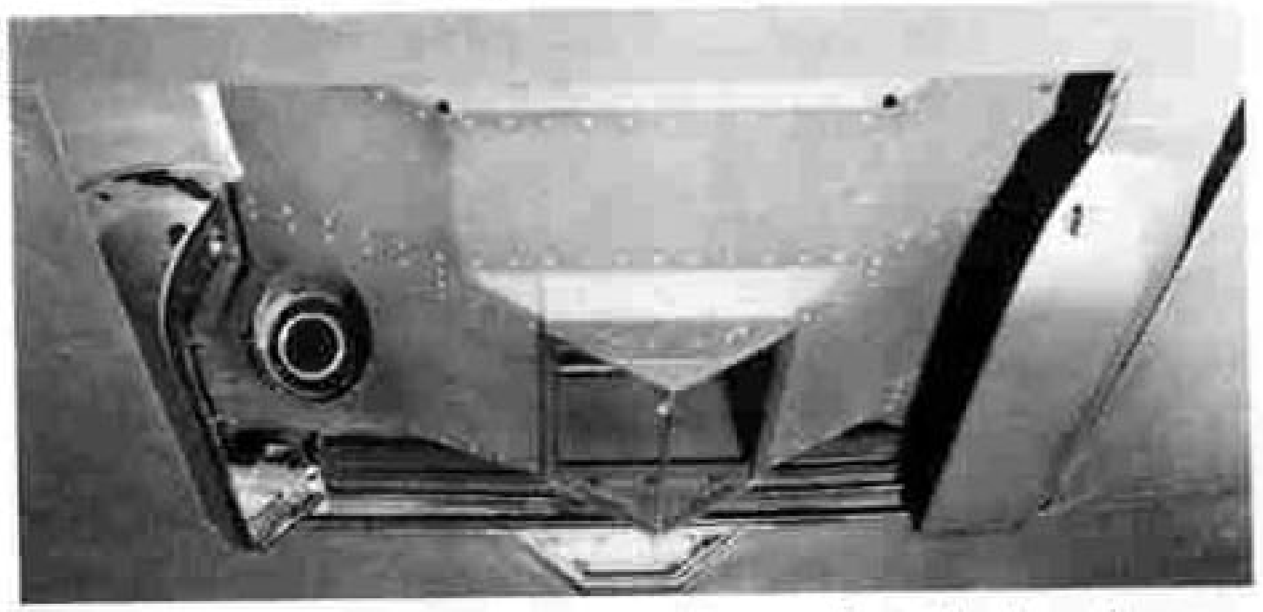
Clearance for weapons loading was minimal as shown by these two Mk 28 nuclear weapons shapes on a P-3 trailer during tests at the Air Force Special Weapons Center, Kirtland AFB. Noteworthy is the bomb bay spoiler in its retracted position.

Sandia Laboratories



During Operation "Redwing", the first U.S. thermonuclear weapon tests over Bikini Atoll in the Pacific proving ground during 1956, a B-66B dropped at least one nuclear store. In this view, a Mk. 28 nuclear weapon shape is seen in a B-66B bomb bay.

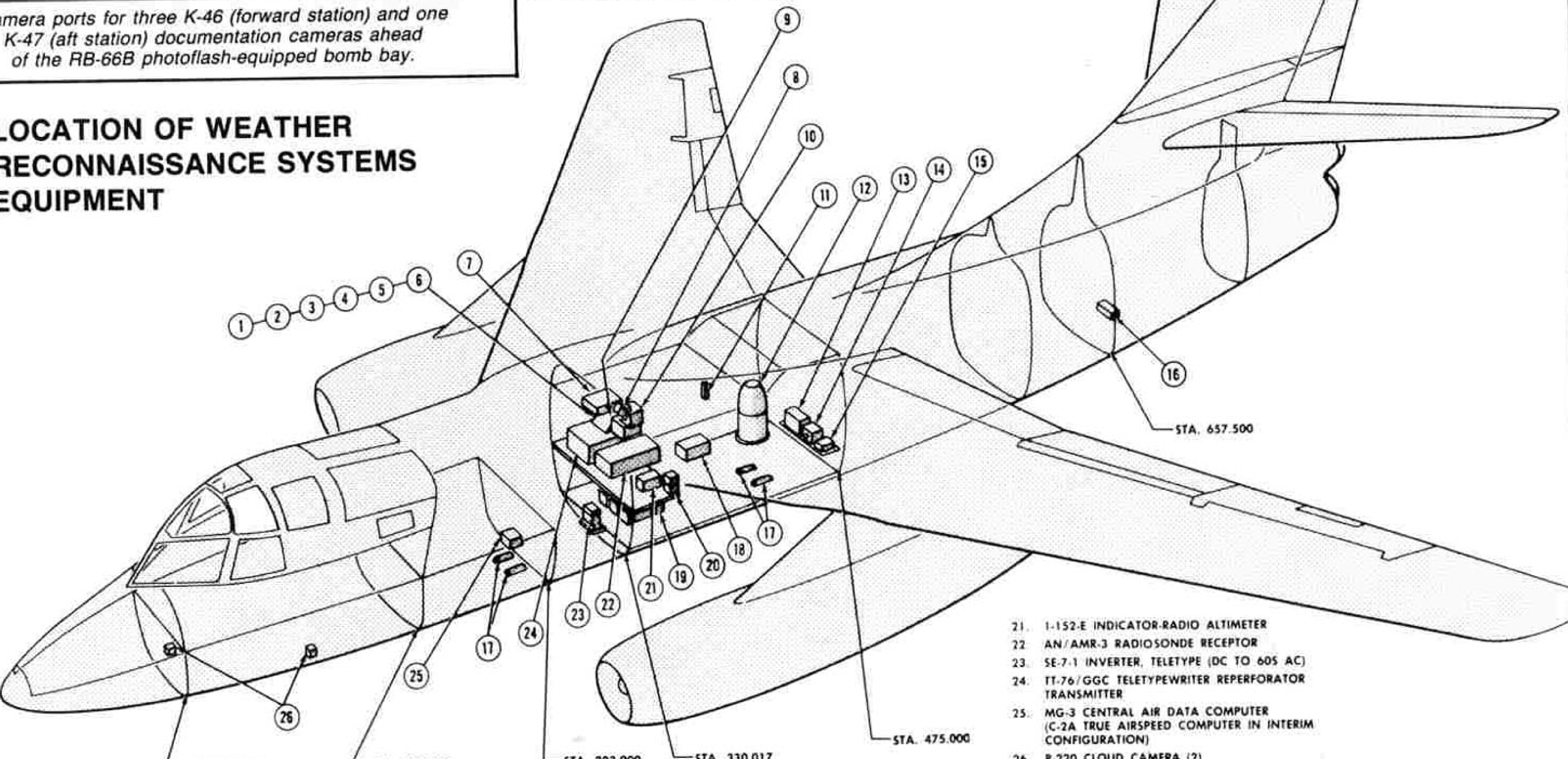
MDC



Camera ports for three K-46 (forward station) and one K-47 (aft station) documentation cameras ahead of the RB-66B photoflash-equipped bomb bay.

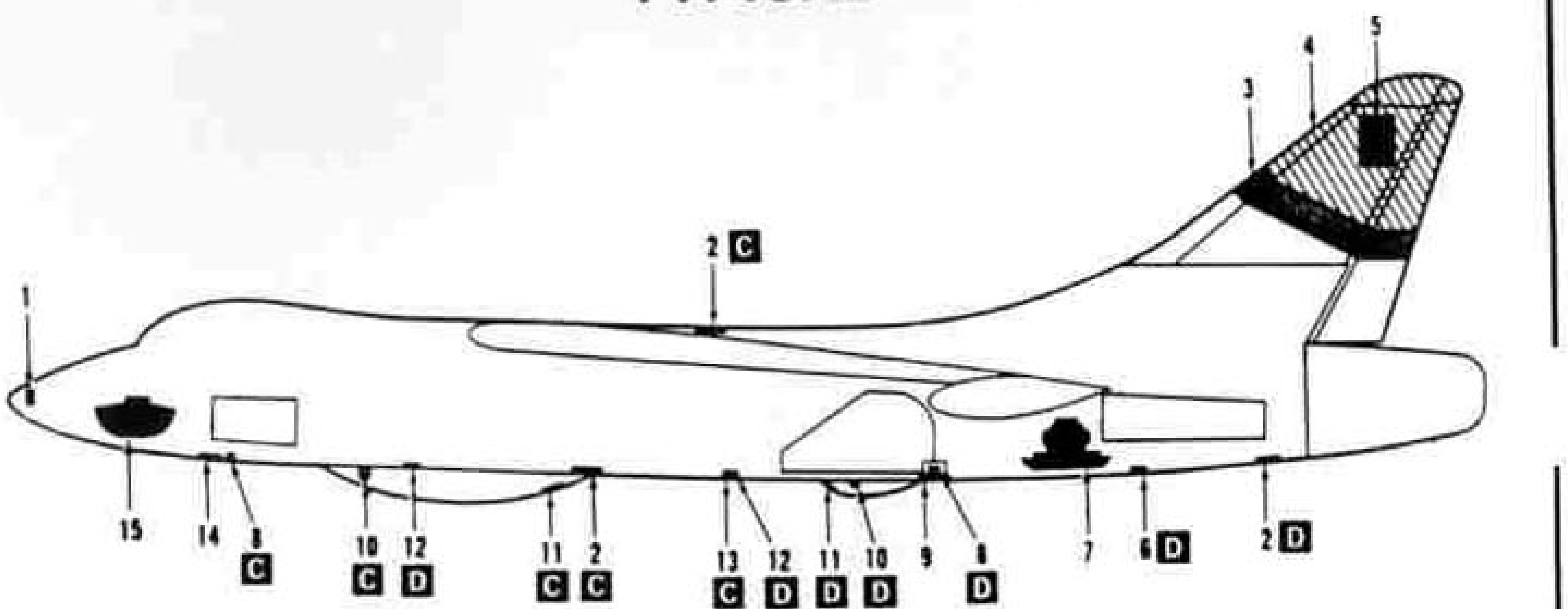
LOCATION OF WEATHER RECONNAISSANCE SYSTEMS EQUIPMENT

1. RADIO CALL MASK
2. C451/ARC-21 LIAISON RADIO CONTROL UNIT
3. C-1494/AME-1 CONTROL PANEL
4. ED-1989A RECORDER CONTROL PANEL
5. C-824/AIC-10 INTERPHONE CONTROL (2)
6. TT-76/GGC FSK CONTROL PANEL
7. CV-357/A FREQUENCY SHIFT CONVERTER-TELETYPE
8. C-626/ARC-27 COMMAND RADIO CONTROL UNIT
9. WEATHER OBSERVERS' INSTRUMENT PANEL
10. AEROGRAPH INSTRUMENT PANEL
11. RE-184/AME-1 RELAY ASSEMBLY BOX
12. D-4/AME-1 RADIOSONDE DISPENSER UNIT
13. BC-788E/SCR-718 SPARE RECEIVER-TRANSMITTER UNIT, RADIO ALTIMETER
14. 1-152-E SPARE INDICATOR-RADIO ALTIMETER
15. RD-106/ANH-2 WIRE RECORDER
16. AN/AMR-3 RECEPTOR ANTENNA
17. AS-333/AP ANTENNAS, RADIO ALTIMETER (4)
18. BC-788E/SCR-718-RECEIVER-TRANSMITTER UNIT, RADIO ALTIMETER
19. AM-706/AMQ-7 ELECTRONIC CONTROL AMPLIFIERS
20. P-220 CAMERA CONTROL PANEL

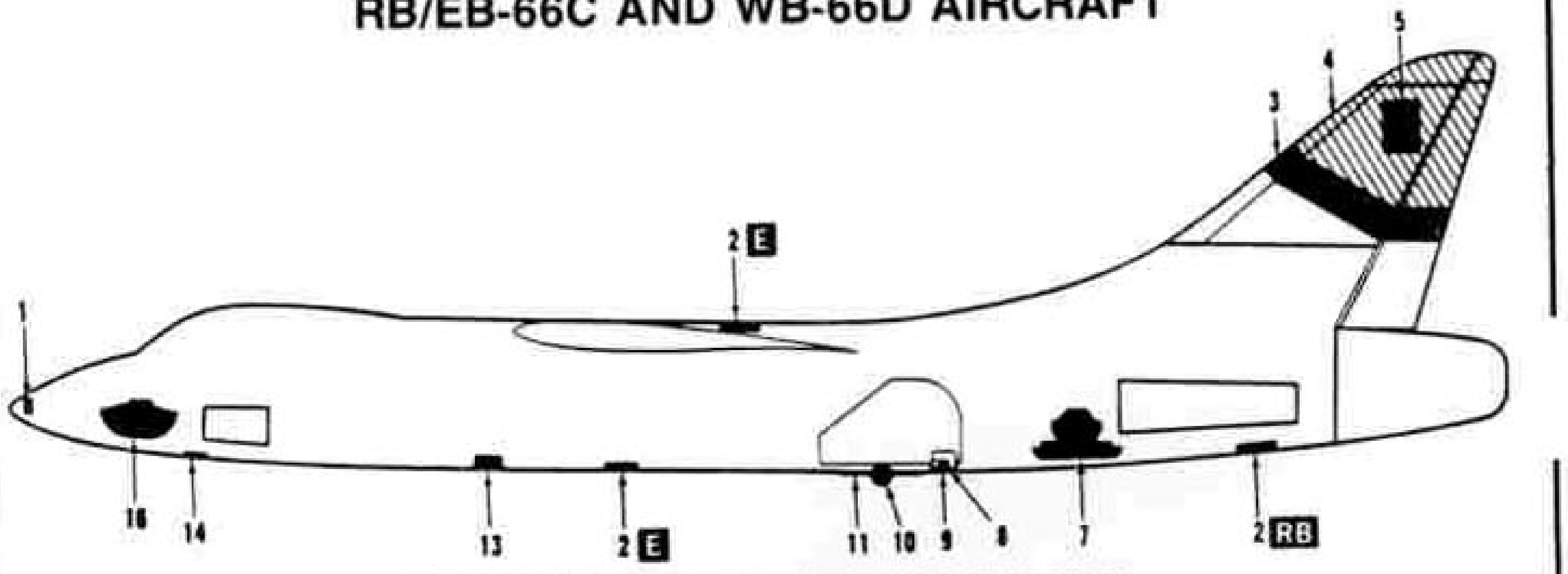


21. 1-152-E INDICATOR-RADIO ALTIMETER
22. AN/AMR-3 RADIOSONDE RECEPTOR
23. SE-7-1 INVERTER, TELETYPE (DC TO 60S AC)
24. TT-76/GGC TELETYPEWRITER REPERFORATOR TRANSMITTER
25. MG-3 CENTRAL AIR DATA COMPUTER (C-2A TRUE AIRSPEED COMPUTER IN INTERIM CONFIGURATION)
26. P-220 CLOUD CAMERA (2)

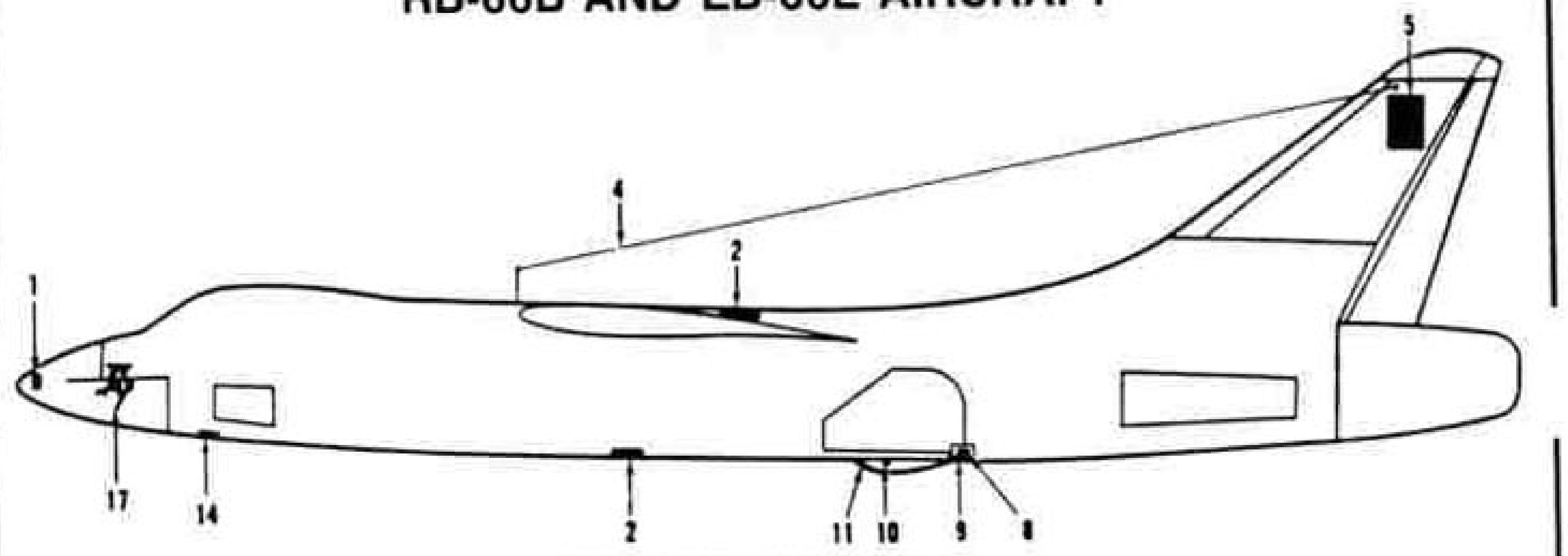
RADIO AND RADAR ANTENNAS TYPICAL



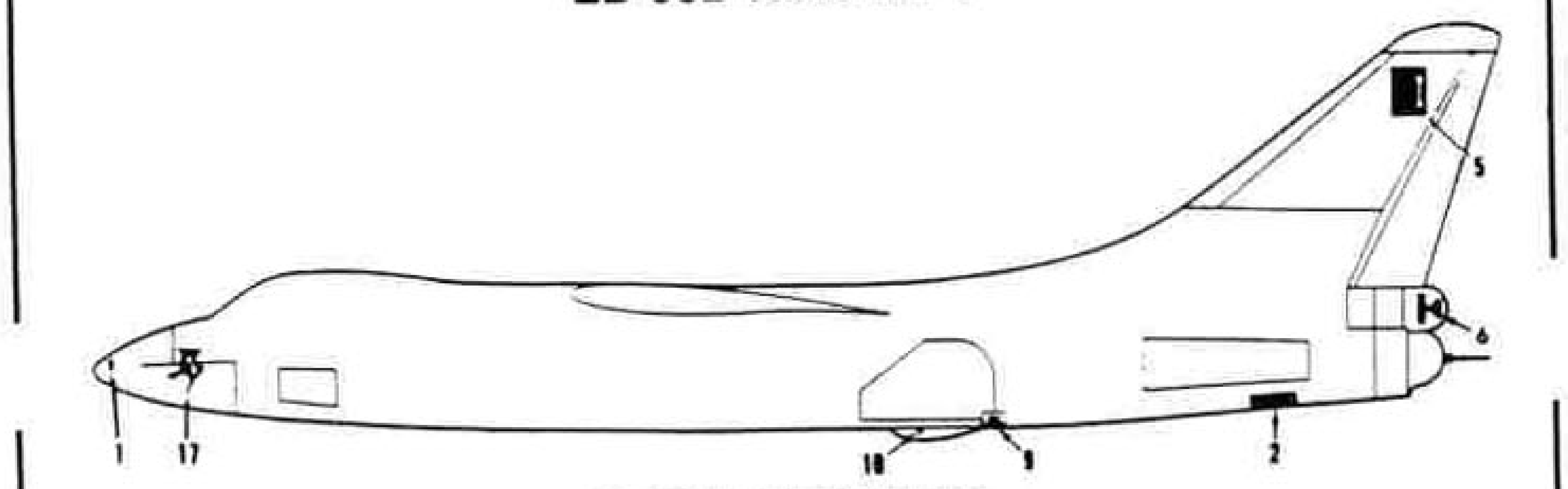
RB/EB-66C AND WB-66D AIRCRAFT



RB-66B AND EB-66E AIRCRAFT

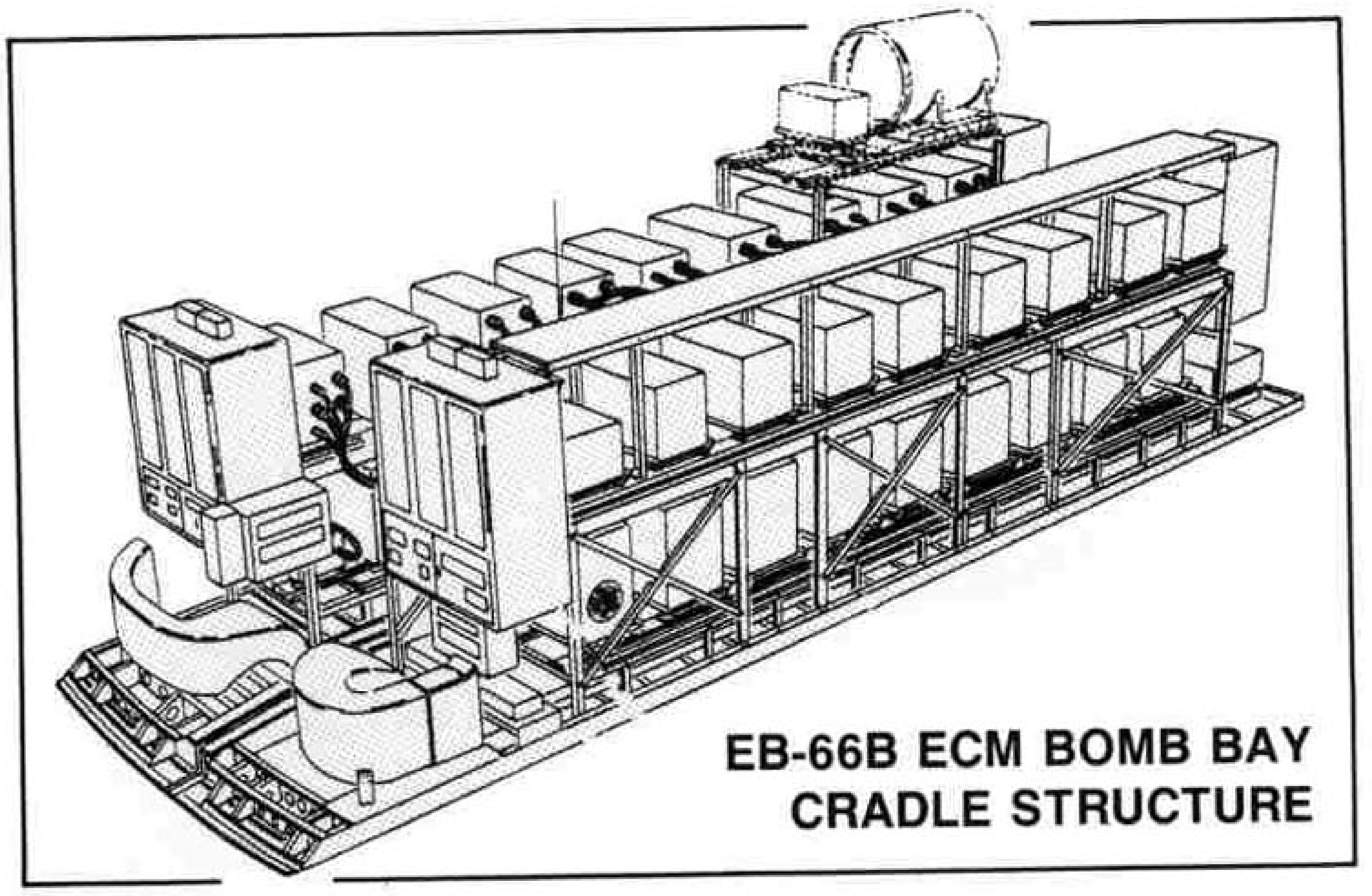


EB-66B AIRCRAFT

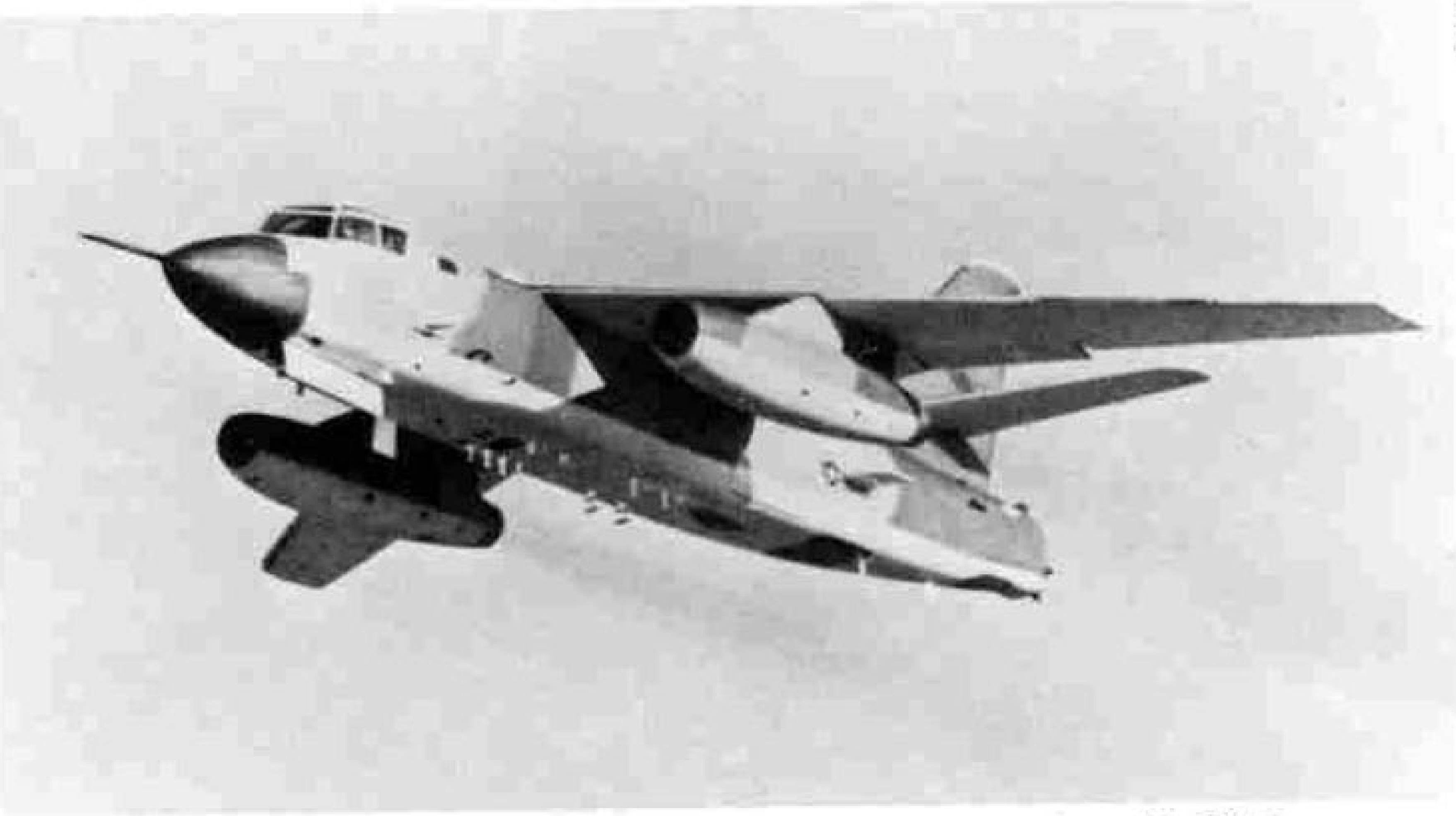


B-66B AIRCRAFT

1. AN/ARN-18 GLIDE PATH
2. AN/ARC-27 UHF COMMAND
3. ISOLATION STRIP
4. AN/ARC-21/65 LIAISON
5. AN/ARN-14 VOR AND LOCALIZER
6. AN/AMR-3
7. AN/APN-82 NAVIGATION RADAR
8. AN/APX-6/25 IFF
9. AN/ARN-12 MARKER BEACON
10. AN/ARN-6 LOOP ANTENNA
11. AN/ARN-6 SENSE ANTENNA
12. SCR 718E
13. AN/APN-22 RADAR ALTIMETER
14. AN/ARN-21 TACAN
15. AN/APS-63 SEARCH RADAR
16. AN/APS-27 SEARCH RADAR
17. K-5 NAVIGATION RADAR
18. MD-1(A) FIRE CONTROL

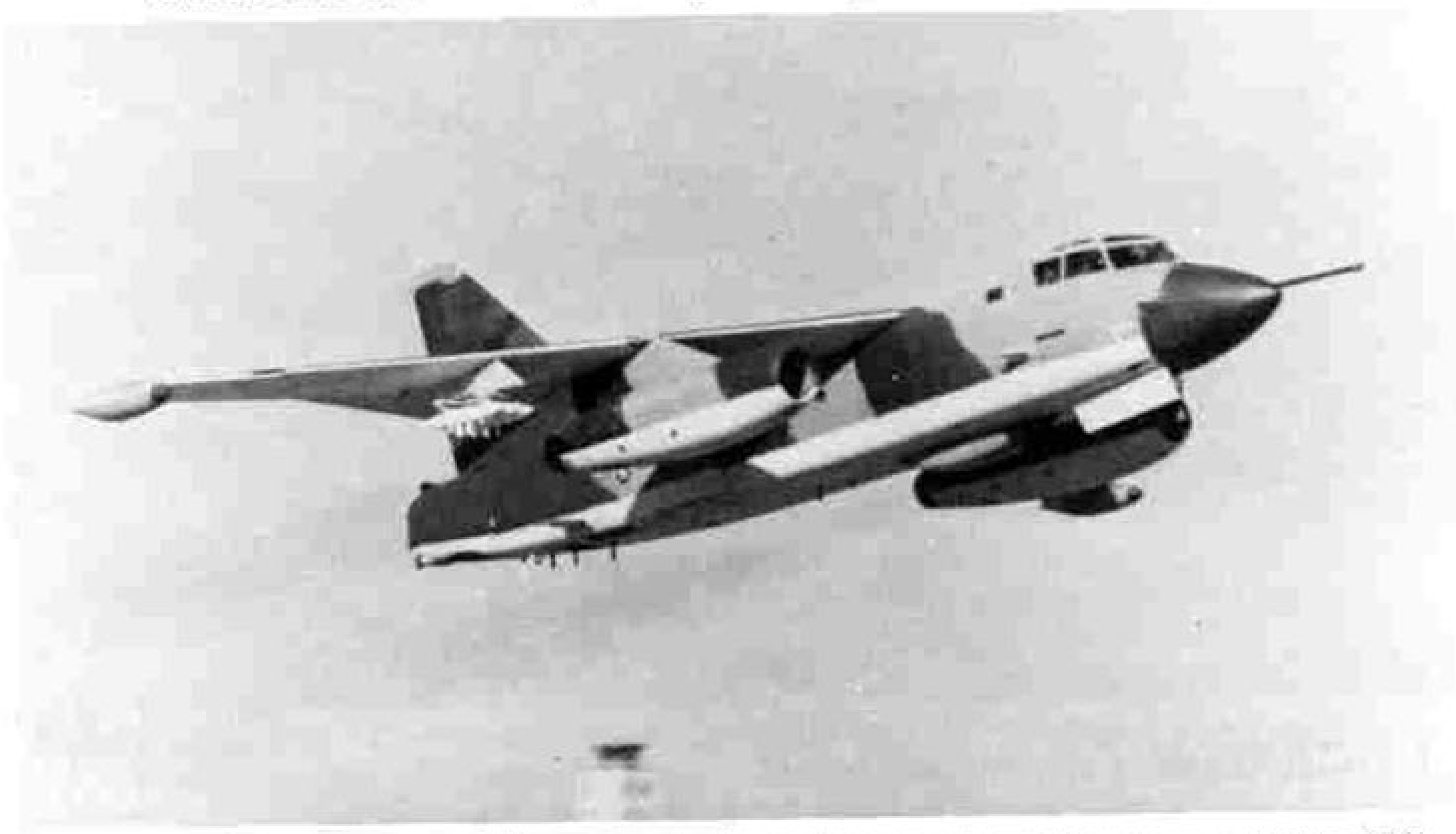


EB-66B ECM BOMB BAY CRADLE STRUCTURE



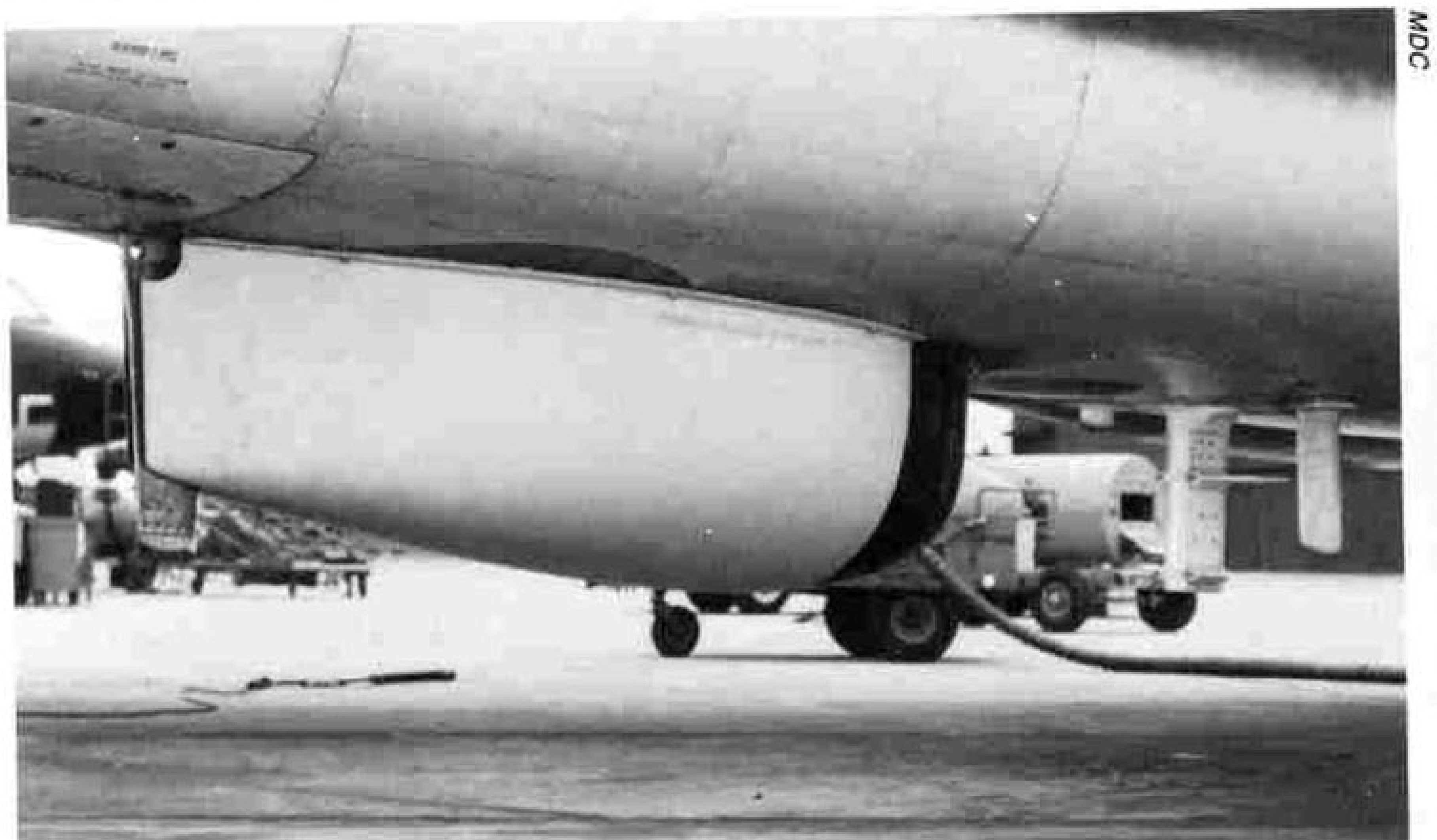
MDC

Fifty-two RB-66Bs were modified to the EB-66E configuration with ECM gear replacing the night photo equipment. The number and configuration of the various antennas varied depending on the type of EW equipment carried.



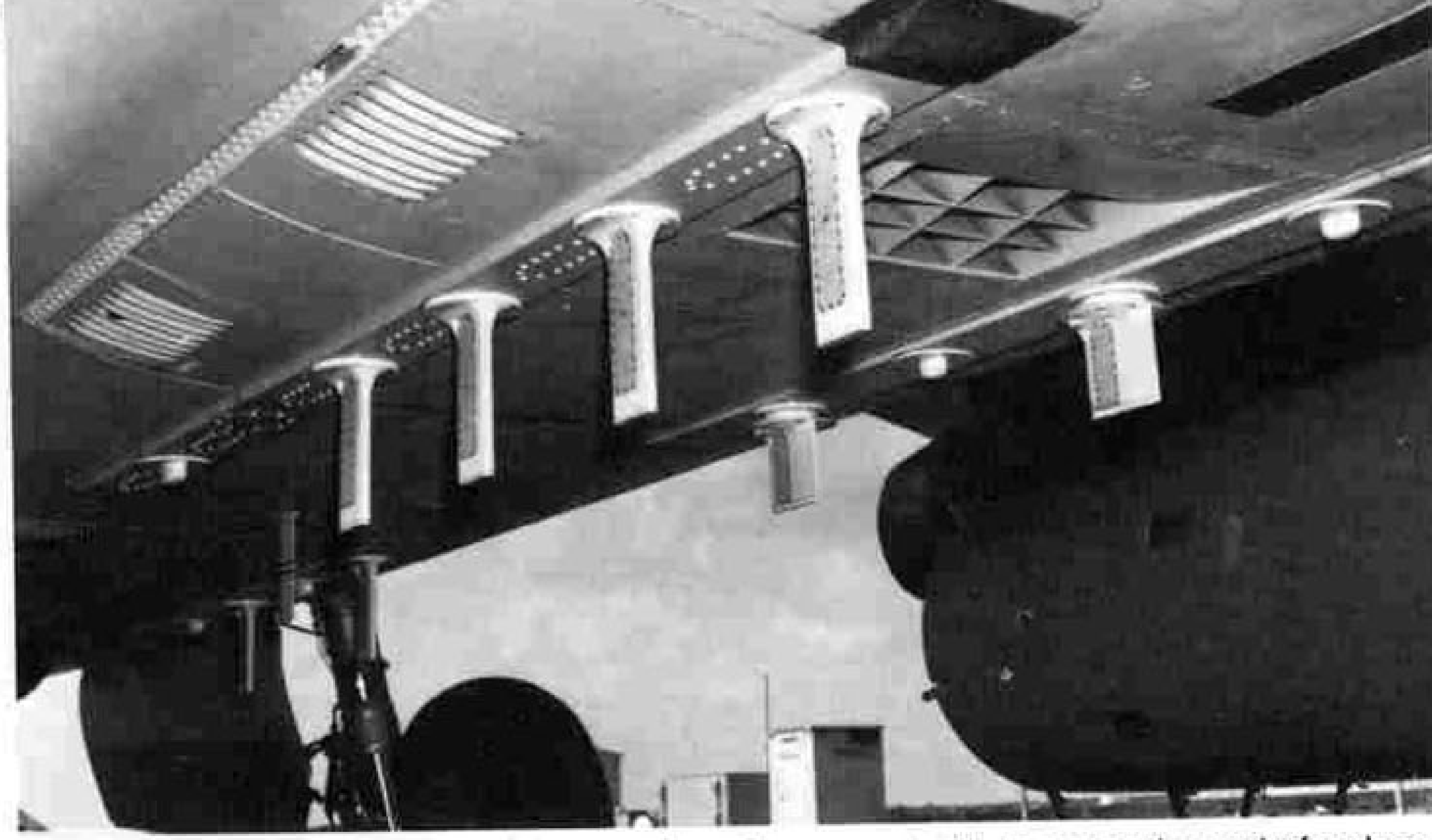
MDC

Additional jamming capability, primarily for self-protection, often was carried by EW "Destroyers" during the course of the Vietnam war in the form of wing-pylon-mounted countermeasures pods such as these three AN/ALQ-71s attached to an RB-66C.



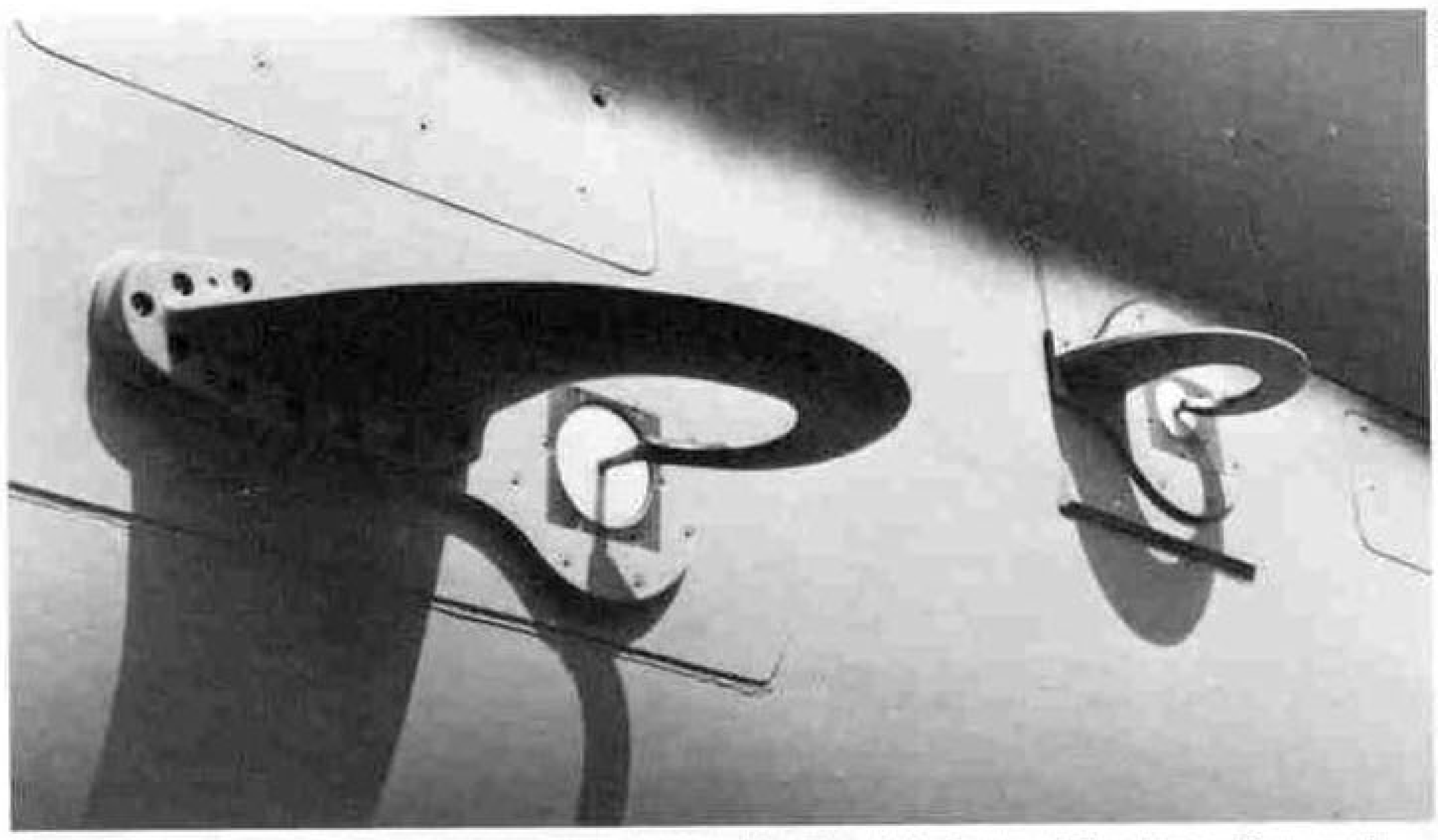
MDC

The aft ventral radome with three steerable ALA-32 jamming antennas, on EB-66Cs modified by TCTO 1B-66(E)C-550, was located on the aircraft centerline. The middle ventral radome, offset left of the centerline, enclosed two additional ALA-32 antennas.



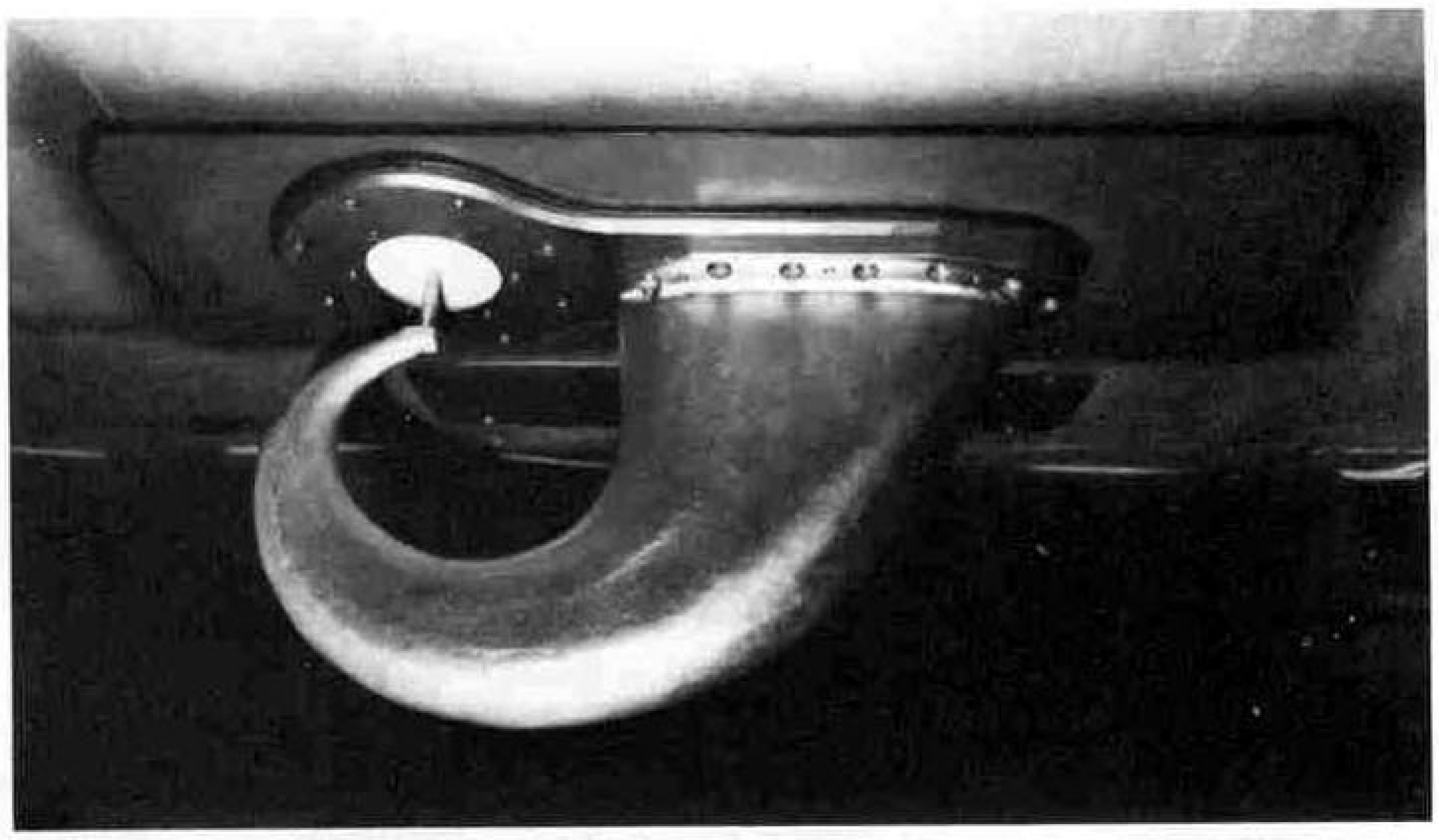
One of many ventral antenna farm configurations eventually to grace the underfuselage surfaces of the EB-66E. Unlike the antennas of the RB-66C which were faired in canoes, those for the EB-66C, of the blade type, were left totally exposed.

MDC



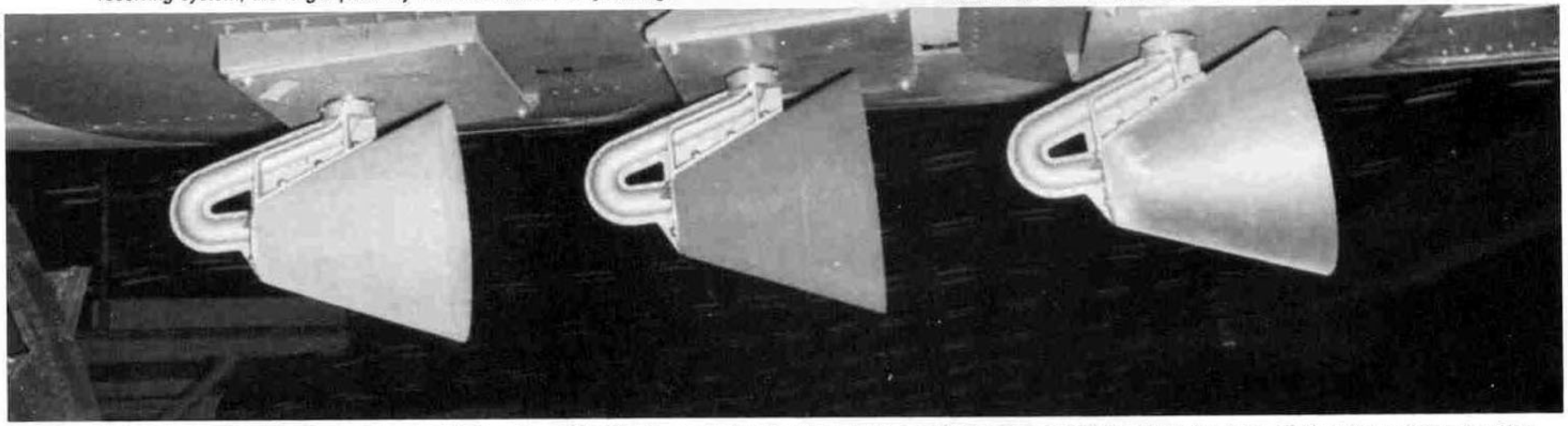
Two scimitar ECM system antennas located on the right forward fuselage of an early EB-66E. The smaller was one of several associated with the AN/ALR-20 panoramic receiving system; the larger probably was associated with jamming.

MDC



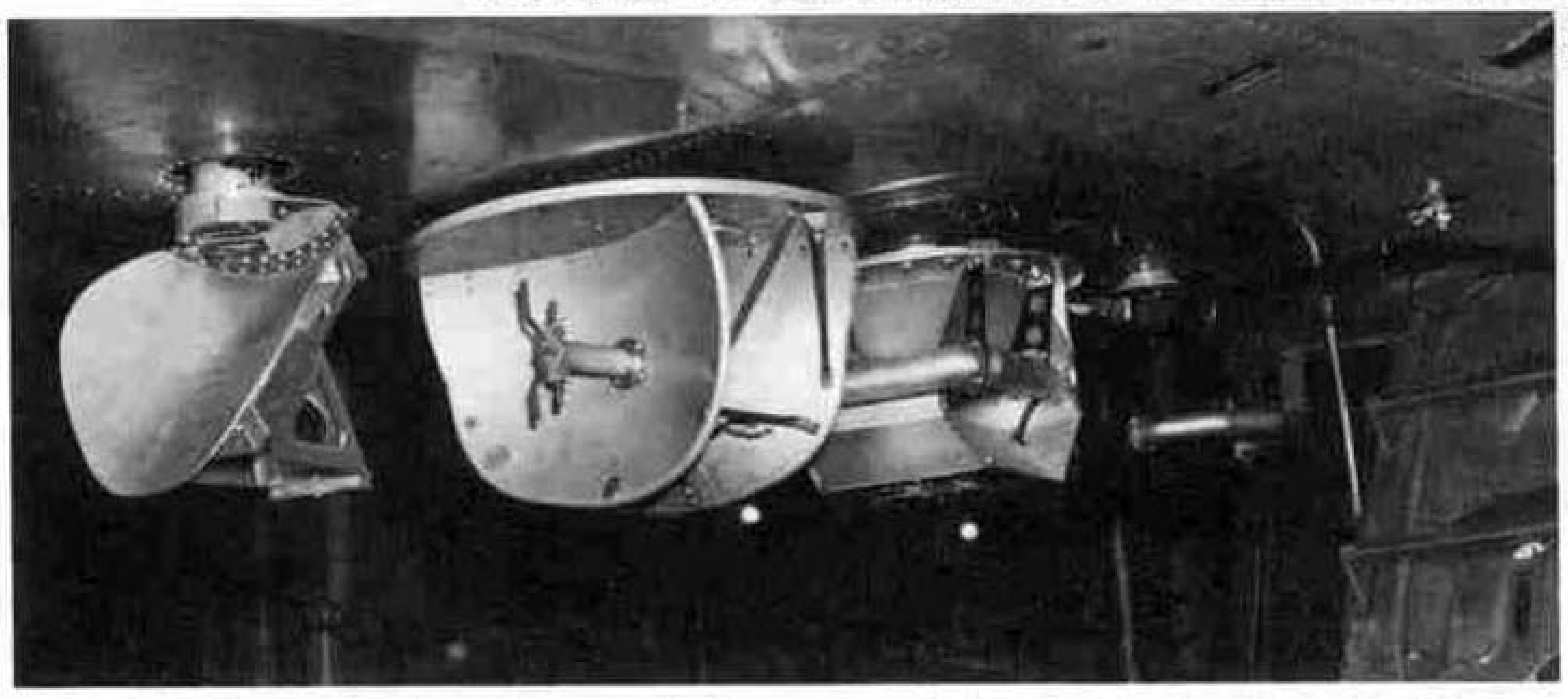
A typical scimitar antenna, ventrally mounted. This antenna type was installed as a component of several ALT-type jamming systems used on ECM-configured "Destroyers". Blade-type antennas eventually replaced it.

MDC



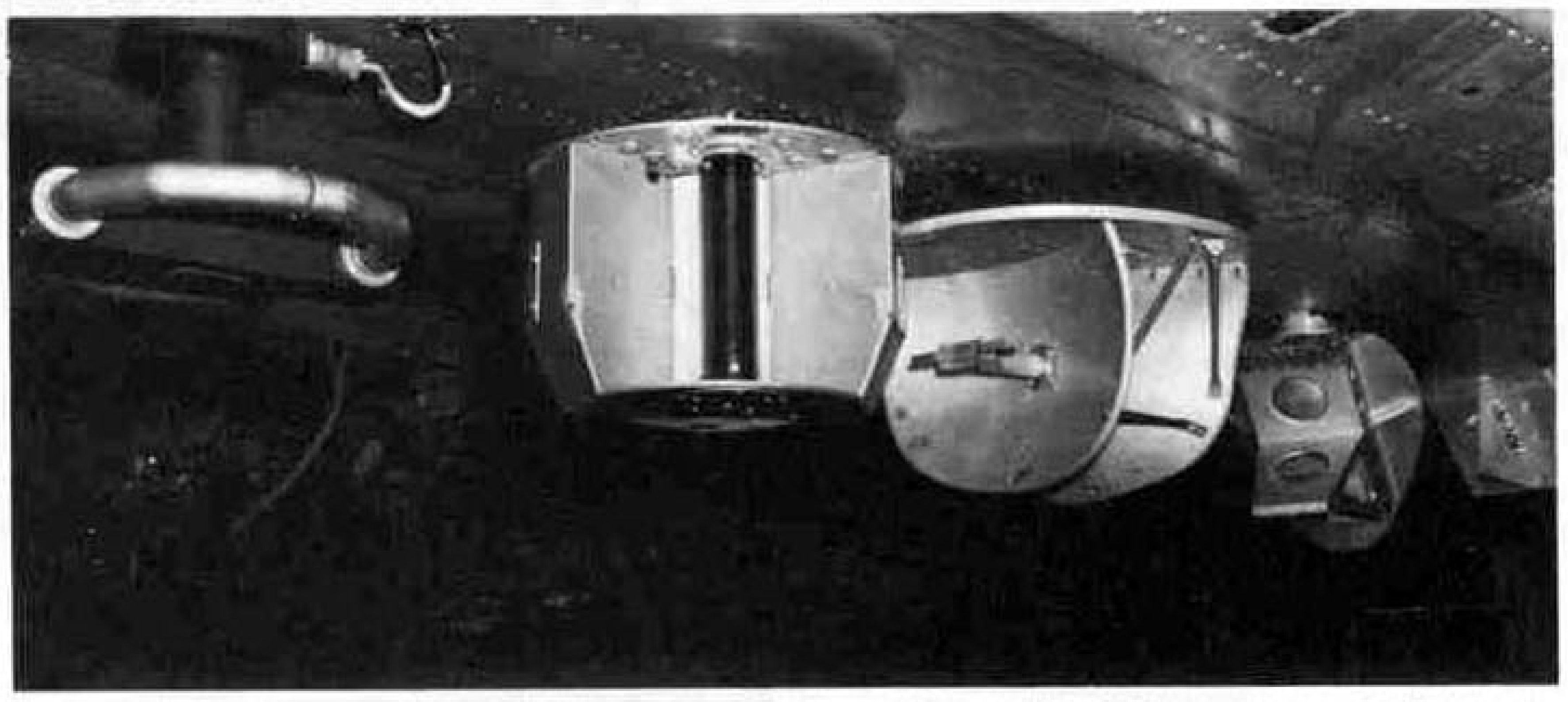
The aft ALA-32 steerable jamming antenna installation of an RB-66C. The protective fiberglass radome, of the canoe variety, has been removed. Each of the perforated-surface bell-shaped antennas could be electrically slewed 360° in order to selectively respond to threats. Slew rates and angles were controlled by the EWOs. The unit was centerline-mounted, whereas the middle antenna array and its associated radome were off-set to the left side of the aircraft.

MDC



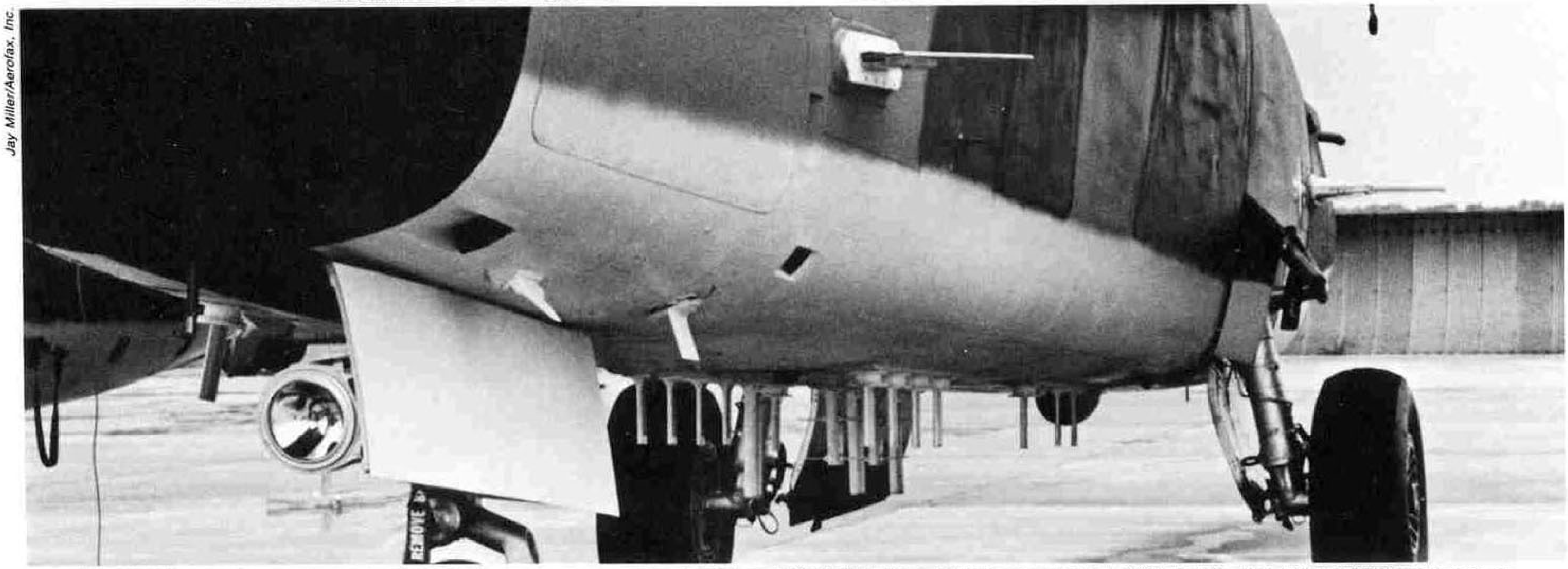
The RB/EB-66C ALA-6 direction finder antenna installation, located just aft of the flight crew compartment access door, is seen with canoe-type radome removed. This was a relatively early, mid-1960s, configuration.

MDC

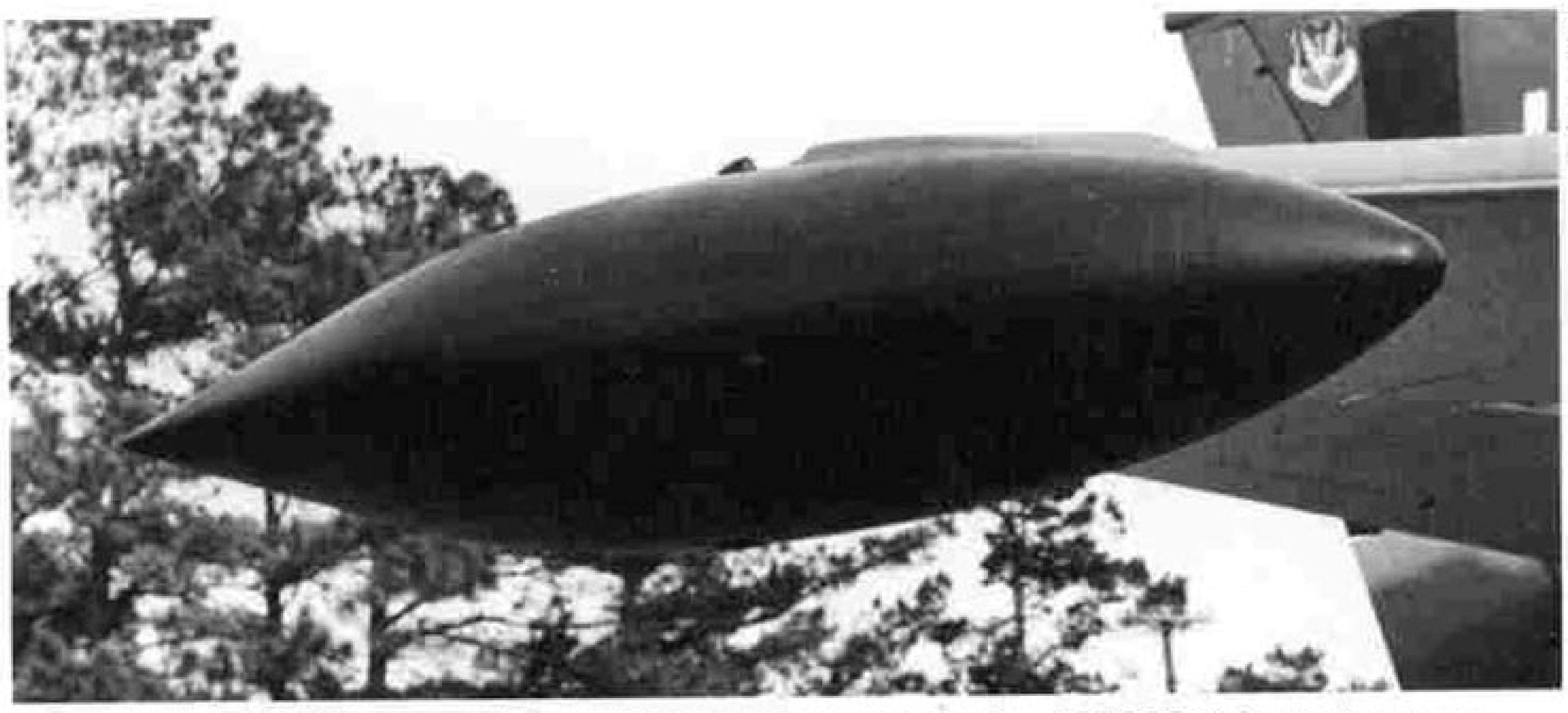


The ALA-6 employed four antenna assemblies, each optimized for coverage of different signal frequencies and/or polarizations. In the same radome was a bracket and two antennas, visible at far right, associated with the APR-9B radar intercept receiver.

Jay Miller/Aerofax, Inc.

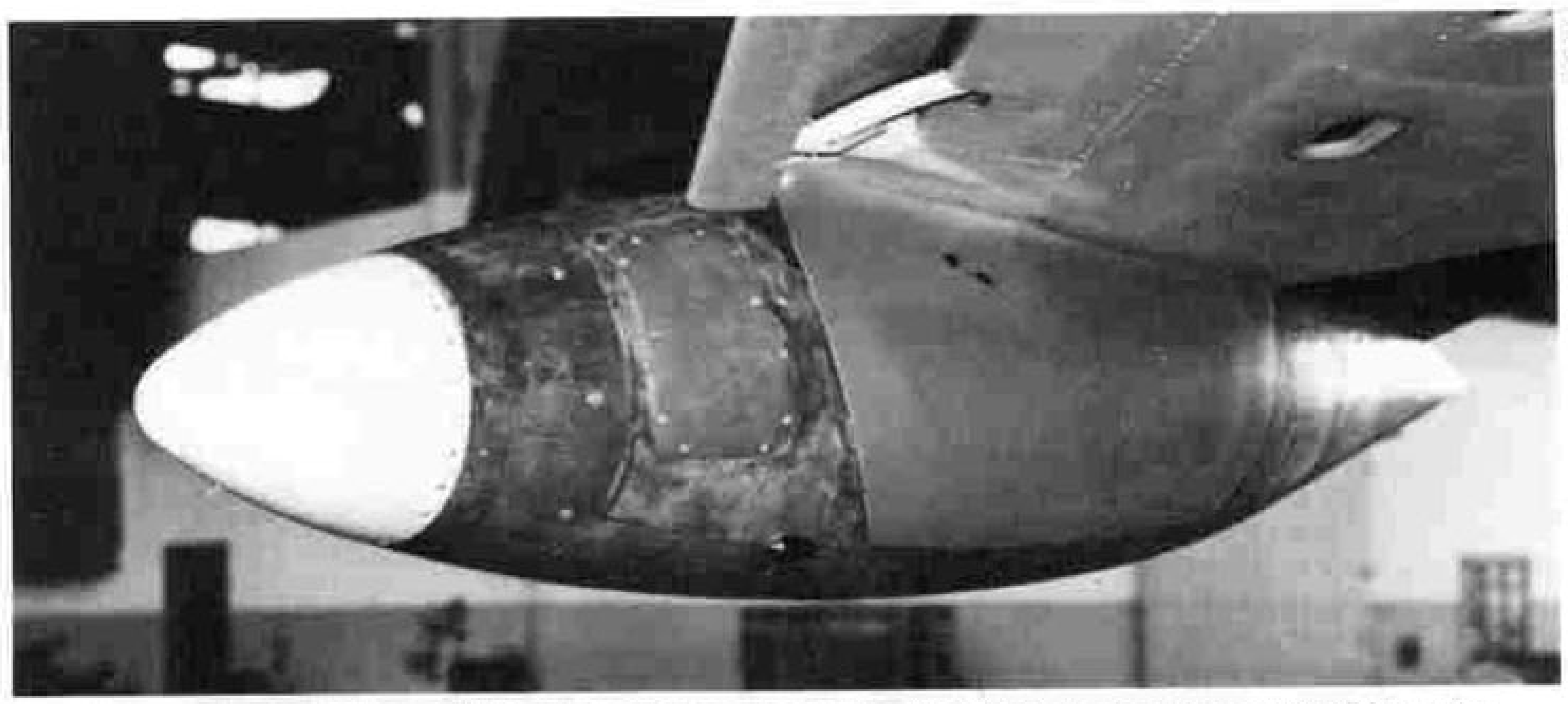


The EB-66E carried a massive array of electronic countermeasures equipment, as indicated by the extensive antenna farm visible in this view. The two blade antennas on each side of the nose gear well were associated with the AN/ALR-20 panoramic receiving system. Virtually all other visible antennas were associated with the powerful jamming system. Additional antennas were mounted inside the pod-like wingtip radomes and on the outboard side of each engine pylon.



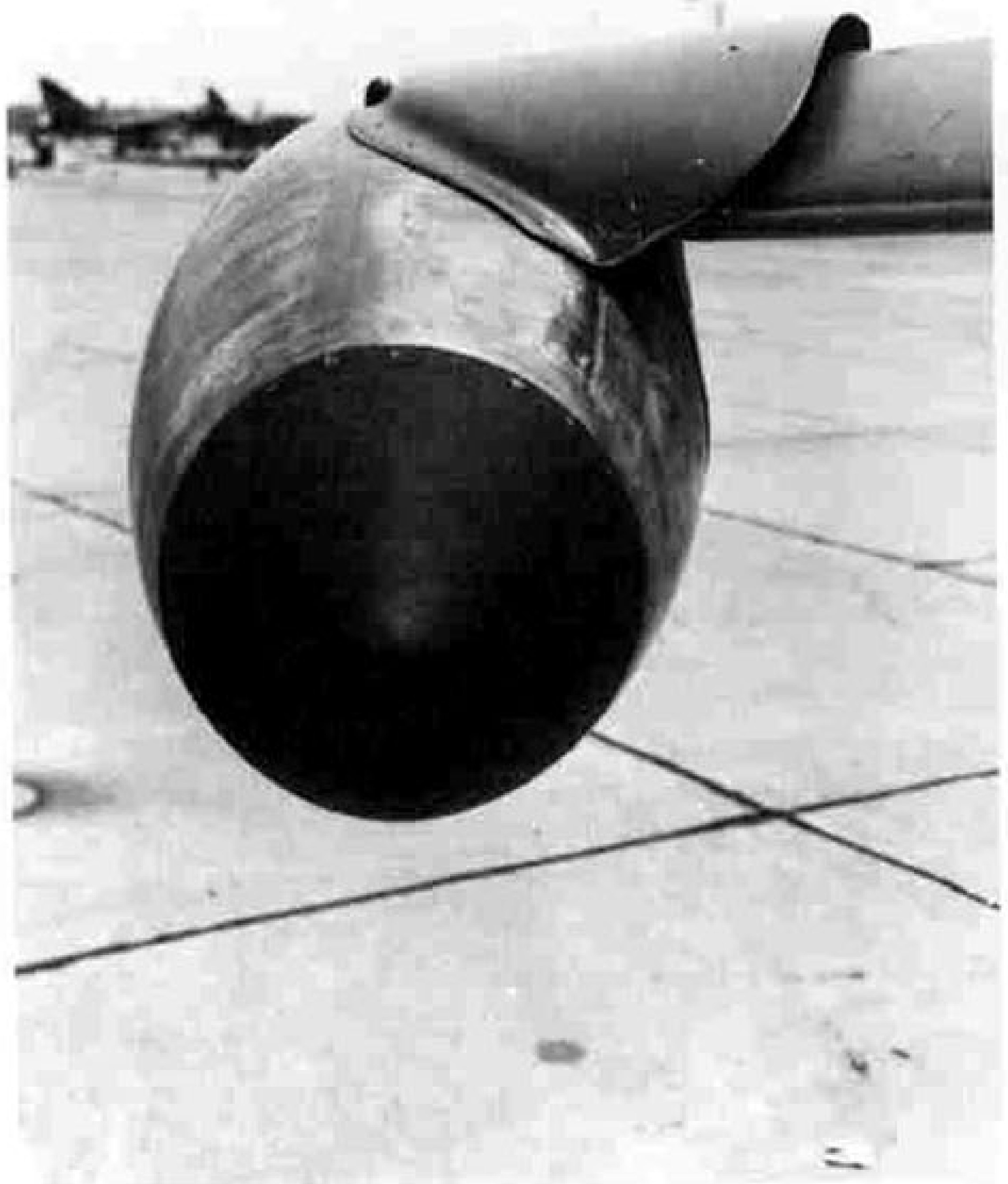
Norm Taylor

The RB-66C wingtip radomes housed antennas for the AN/APD-4 Instantaneous Airborne Direction Finder, used to detect and catalog radar emissions in the frequency range of 1,000 to 33,000 megacycles per second.



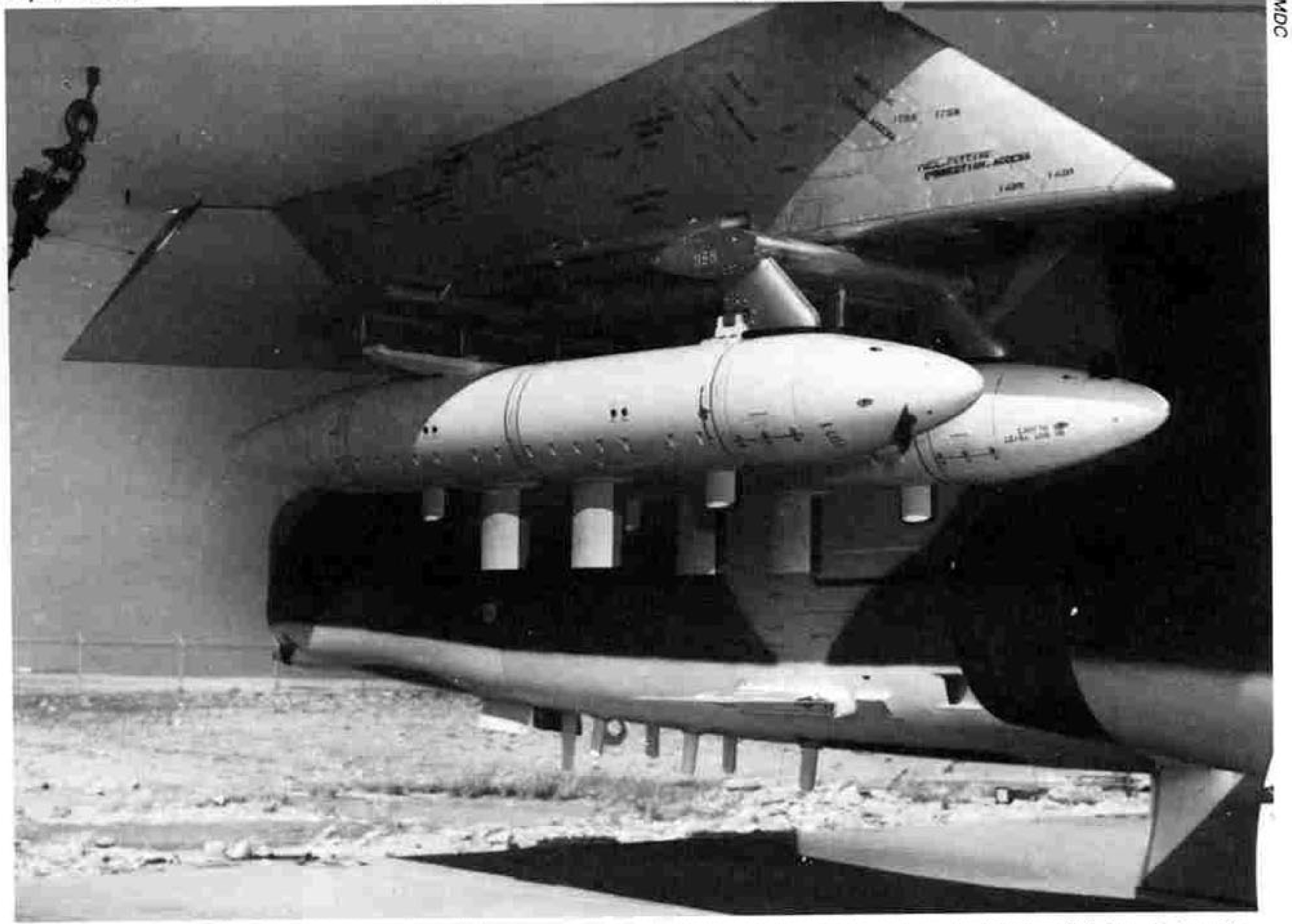
MDC

After deletion of the AN/APD-4 system from the RB-66C during the mid-1960s, the radomes contained no functional components. Because they had no significant impact on the aircraft's handling or performance, they were left in place.



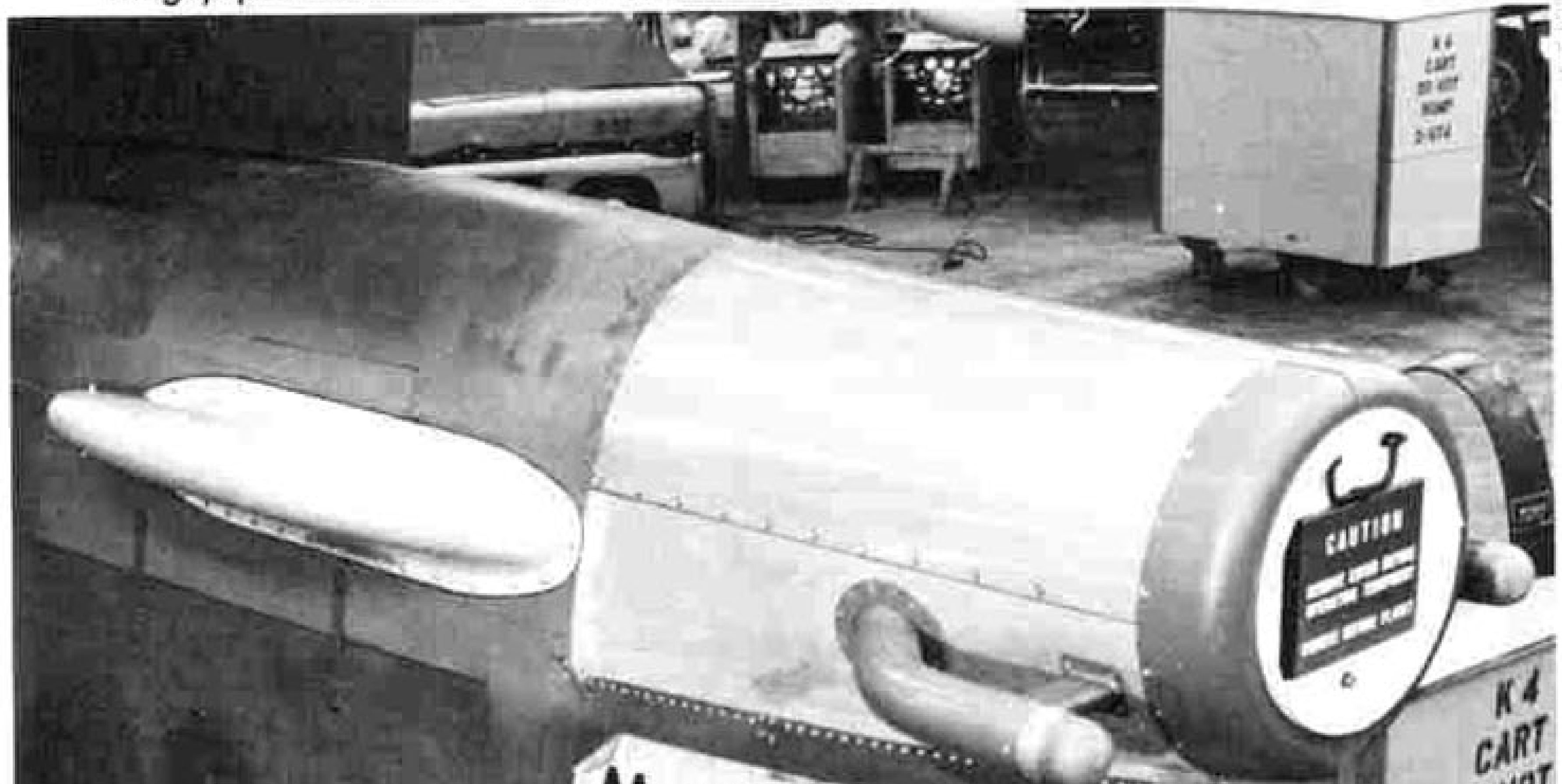
MDC

The unusual overwing fairing and relocated navigation light are readily apparent in this view of the AN/APD-4 wingtip pod installation found on the RB-66C.



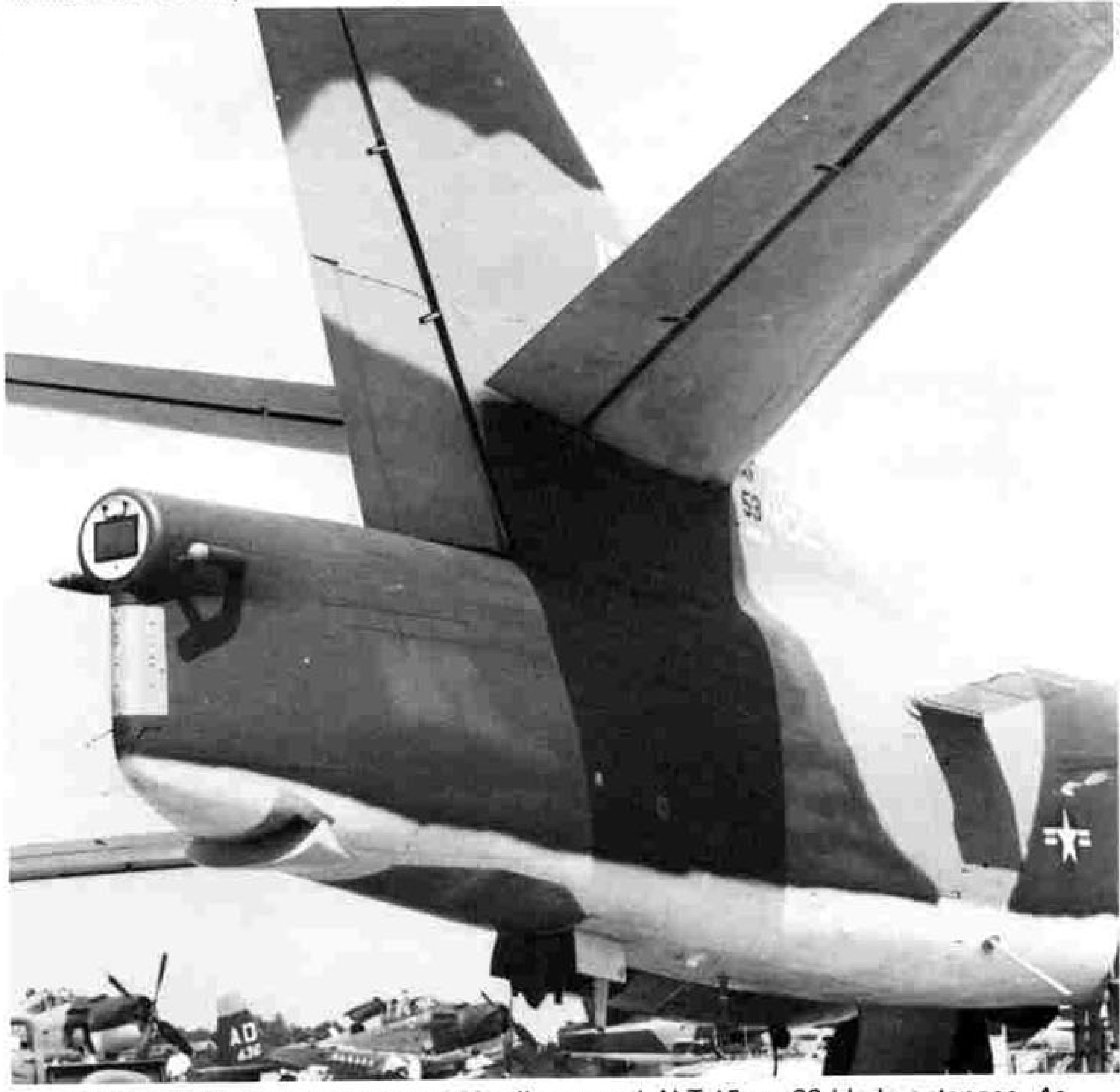
MDC

A dual QRC-160/ALQ-71 ECM pod installation was developed for the EB-66E by Douglas' Tulsa division during the fall of 1966 for use in Vietnam. The pods were suspended beneath standard "Destroyer" external stores pylons using a modified MA-3 adapter. A three-pod configuration also was available.



MDC

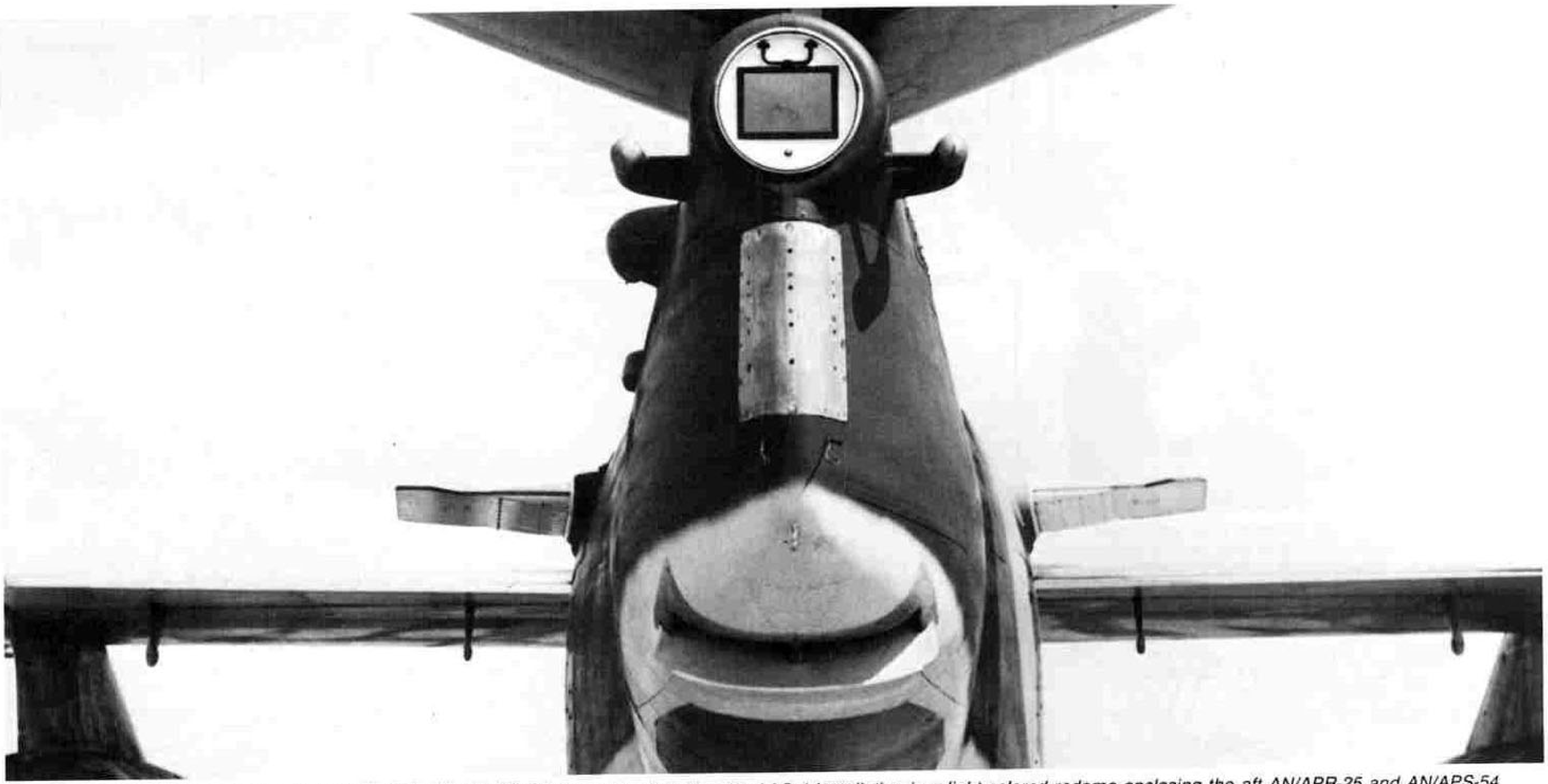
The prototype Mod 2259 installation which reconfigured the upper portion of the ECM tailcone to accept an AAQ-4 IRCM set, relocated two existing ALR-18 set-on receiving antennas to the sides, and installed a new ram-air cooling inlet.



MDC

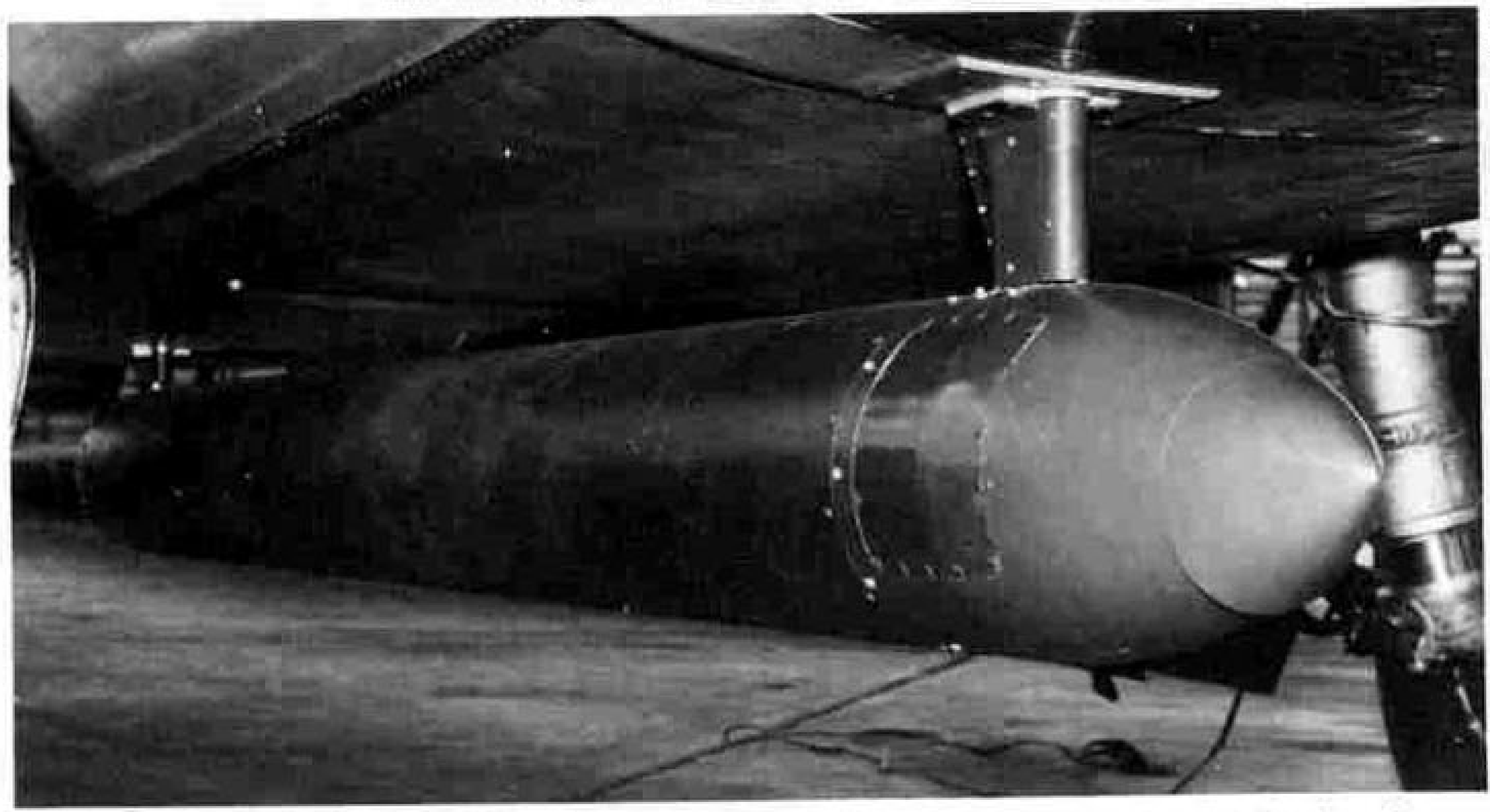
EB-66B, 53-482, with a Mod 2259 tailcone and ALT-15 or -32 blade antennas. As EB-66Bs were not modified by TCTO 1B-66-975, this may have been the prototype installation. Noteworthy is the missing right-side IRCM system cooling inlet.

MDC



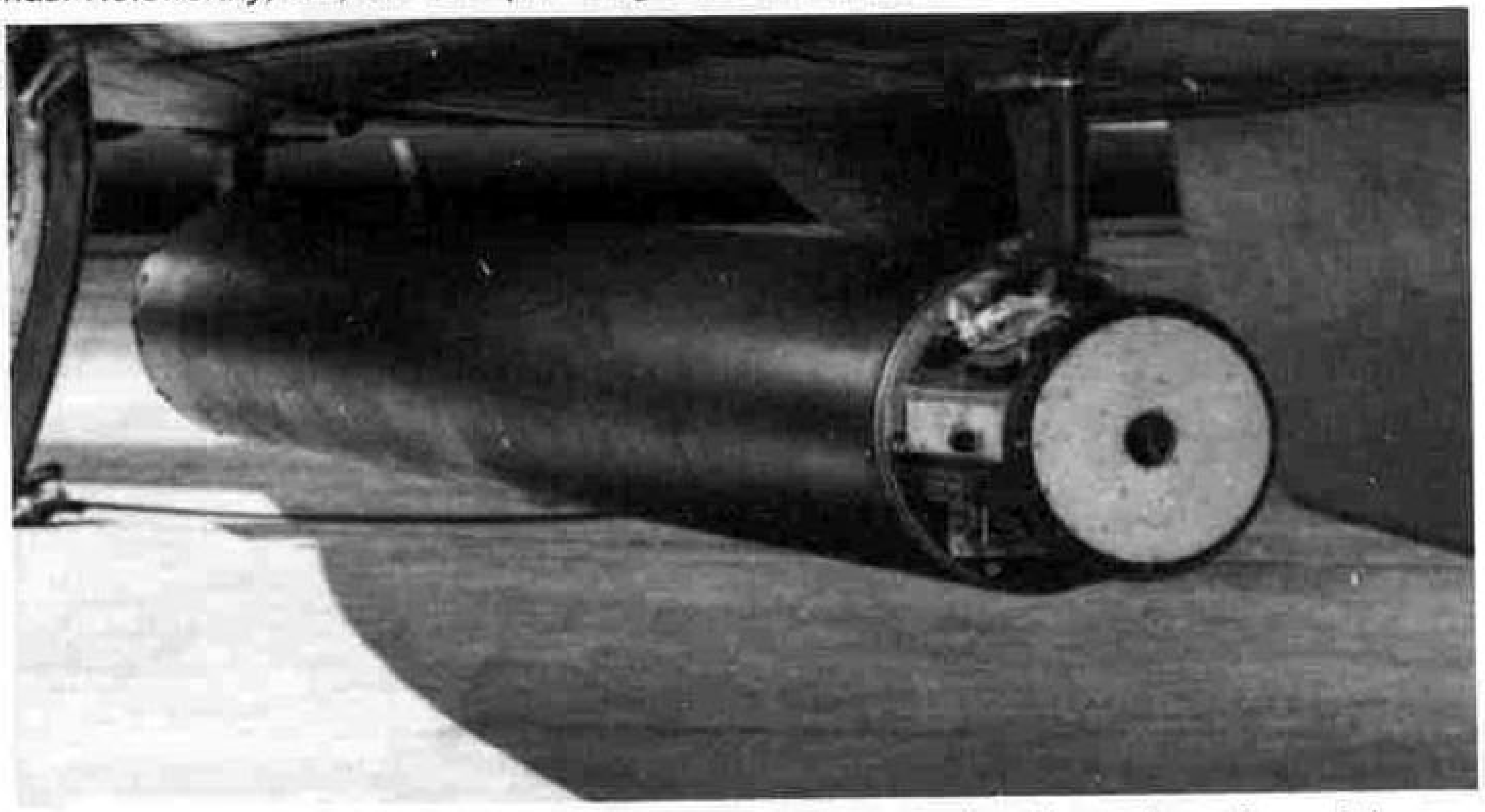
Rear-view of the unusually modified EB-66B, 53-482. Visible immediately below the AAQ-4 installation is a light-colored radome enclosing the aft AN/APR-25 and AN/APS-54 antennas. On the underside of the tailcone assembly are the AN/ALE-1 chaff dispenser chute and a large, dark-colored conformal radome enclosing the internally-mounted AN/ALT-6B, -7, and -8B jamming system antennas. Noteworthy, too, are the open drag chute compartment doors.

MDC



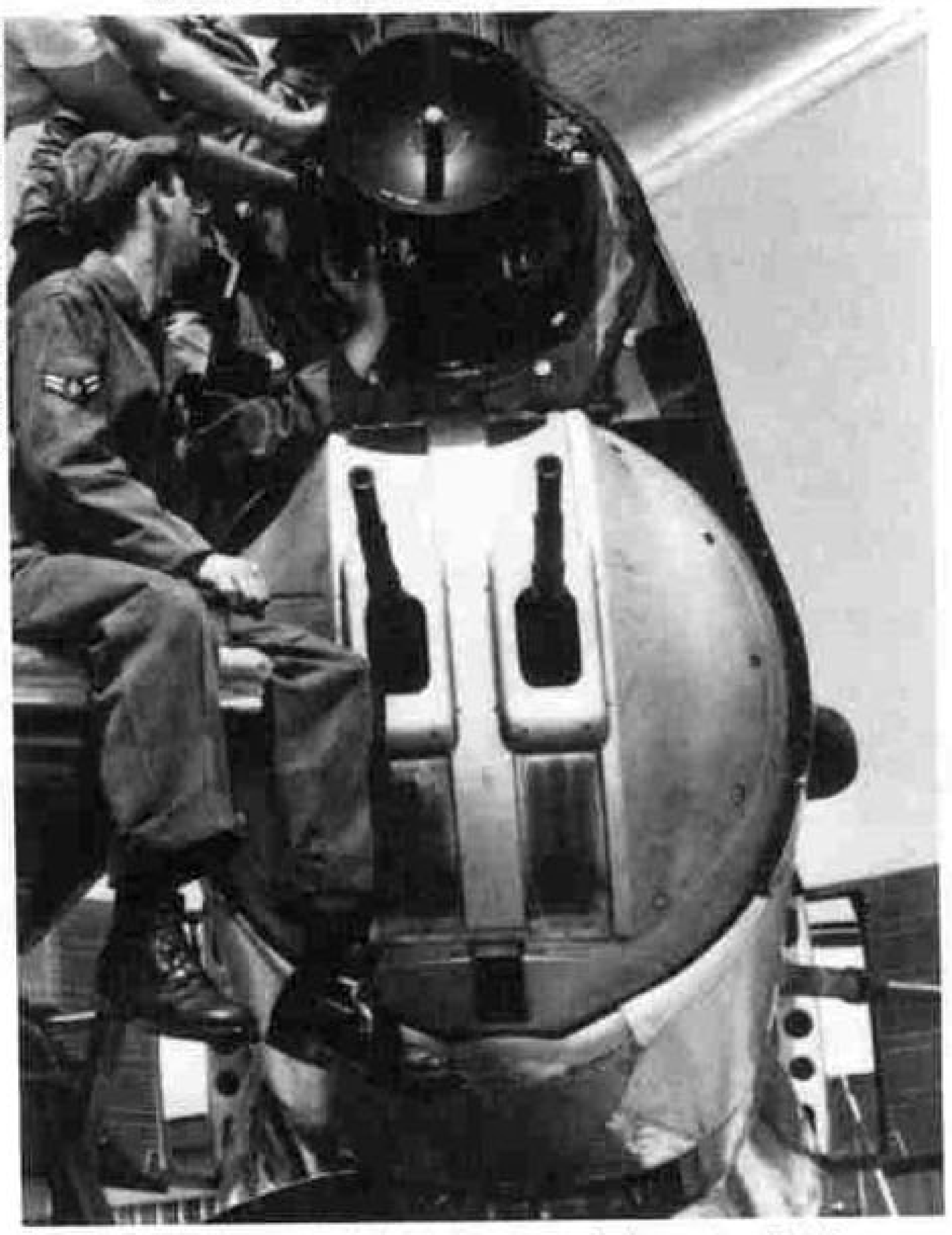
There were a number of experimental EW systems developed and tested using the basic "Destroyer" as a carrier aircraft. Included was this experimental side-looking airborne radar installation which was tested by Douglas' Tulsa operation.

MDC



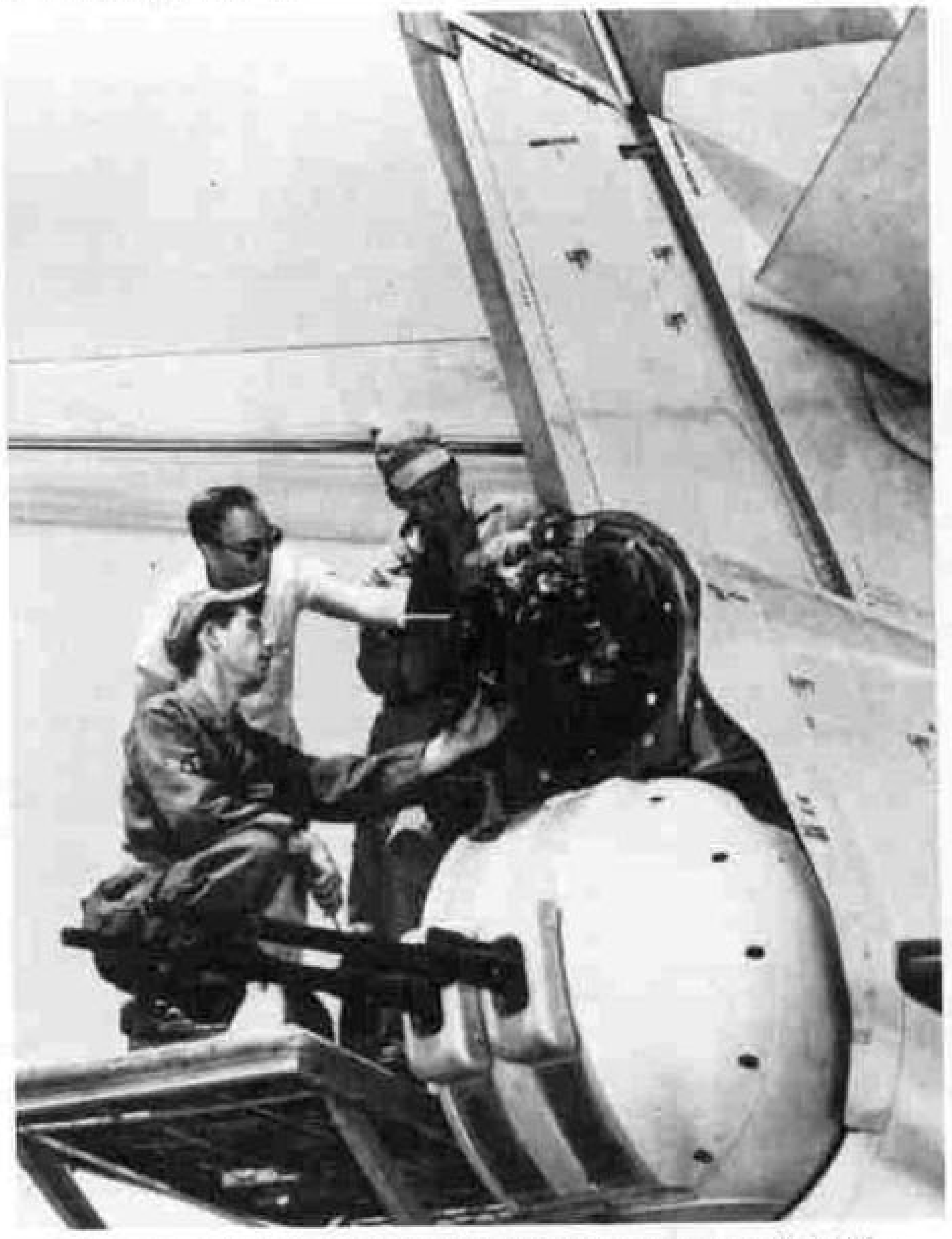
The experimental SLAR pod was permanently attached to the undersurface of the "Destroyer's" fuselage and was not suspended from a conventional mount. The pod was offset to the right side of the aircraft centerline.

General Electric via Chuck Hansen



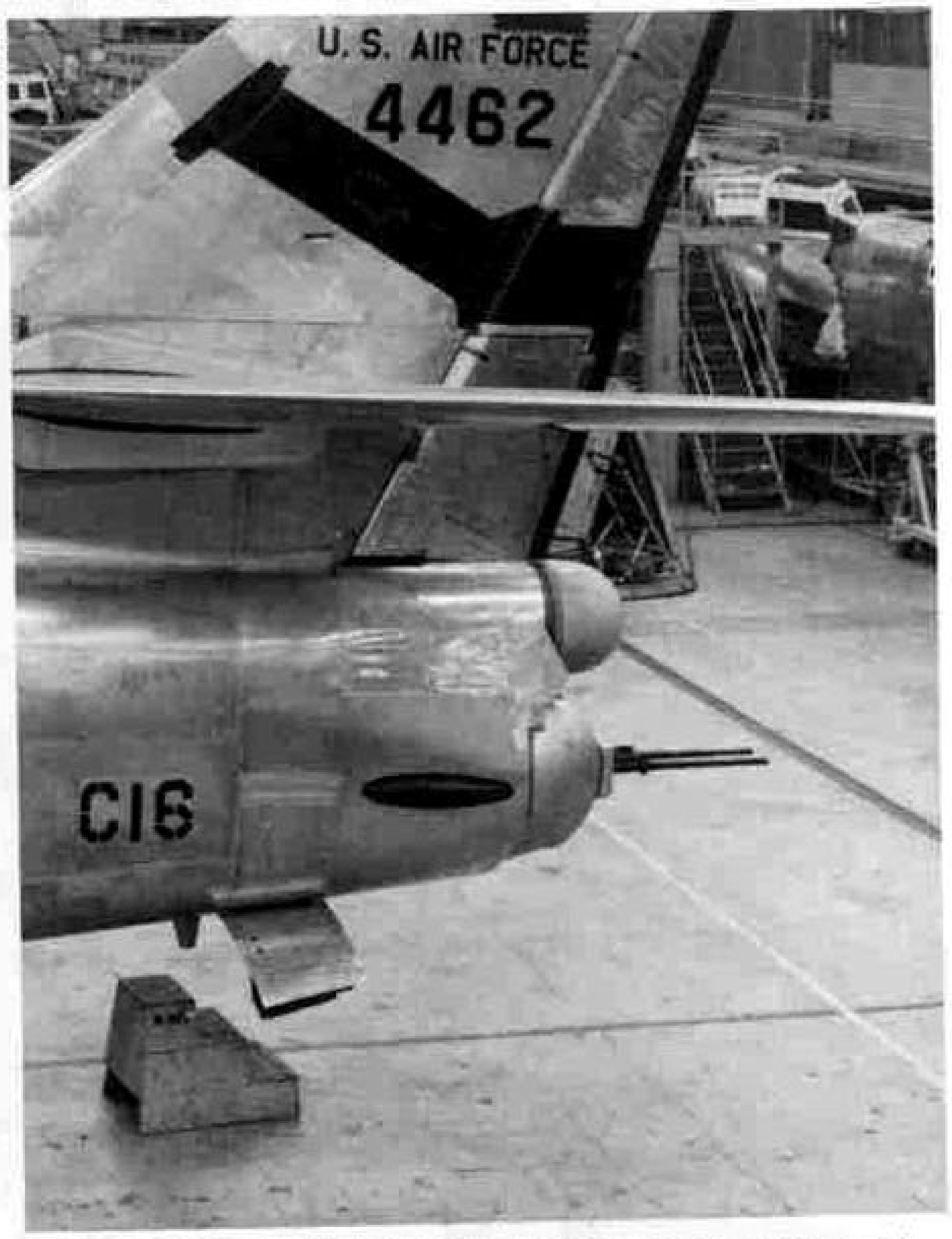
All "Destroyers" initially were delivered with the turreted twin M24A-1 belt-fed cannon and General Electric MD-1 or MD-1A fire control system.

General Electric via Chuck Hansen



The MD-1 fire control system antenna was fitted in a radome mounted above the guns. The M24A-1 cannon were provided with a total of 1,000 rounds.

MDC



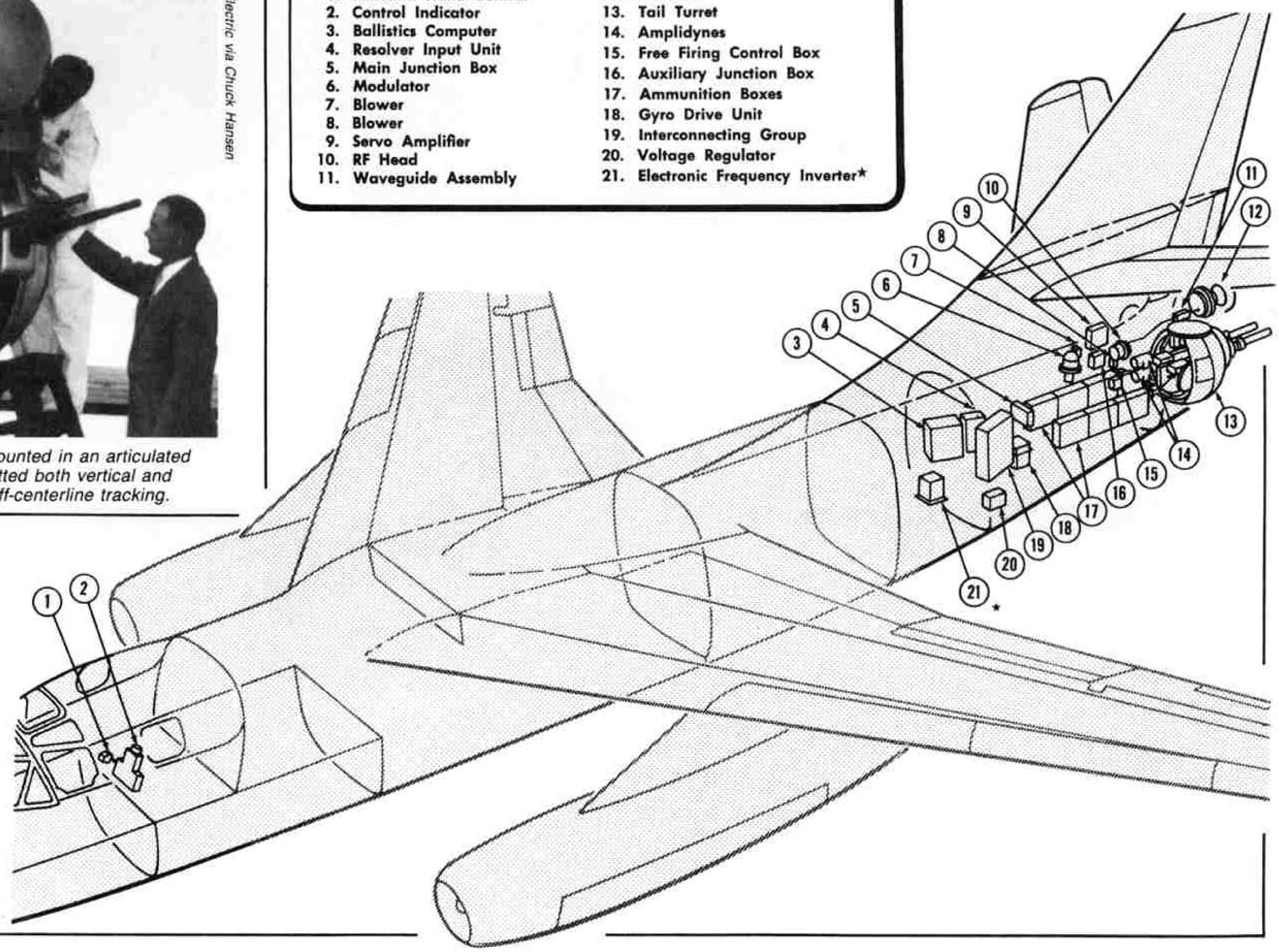
The "Destroyer's" tail gun assembly was unmanned. Operation was remotely controlled from the crew cabin in the forward section of the aircraft.

General Electric via Chuck Hansen

The M24A-1 cannon were mounted in an articulated turret assembly that permitted both vertical and horizontal movement for off-centerline tracking.

FIRE CONTROL SYSTEM LOCATION

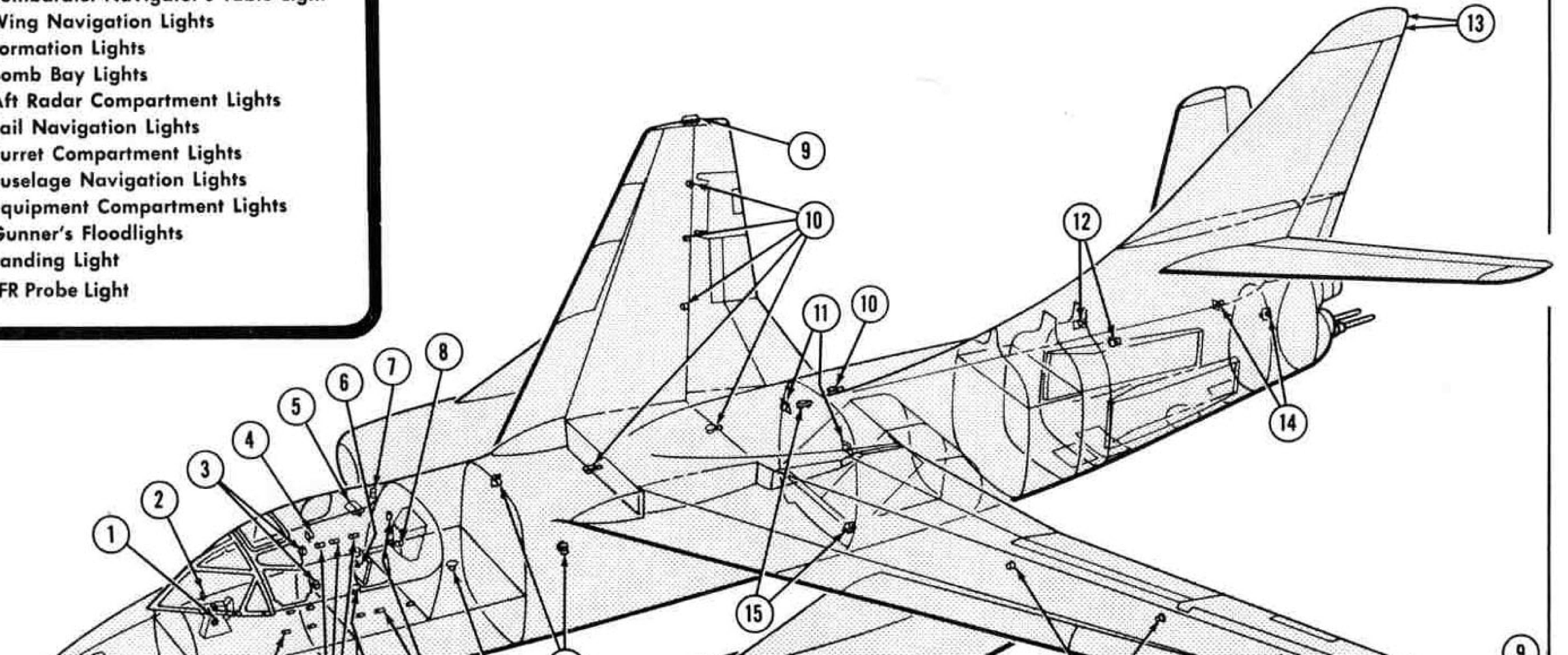
1. **Antenna Hand Control**
2. **Control Indicator**
3. **Ballistics Computer**
4. **Resolver Input Unit**
5. **Main Junction Box**
6. **Modulator**
7. **Blower**
8. **Blower**
9. **Servo Amplifier**
10. **RF Head**
11. **Waveguide Assembly**
12. **Antenna**
13. **Tail Turret**
14. **Amplidynes**
15. **Free Firing Control Box**
16. **Auxiliary Junction Box**
17. **Ammunition Boxes**
18. **Gyro Drive Unit**
19. **Interconnecting Group**
20. **Voltage Regulator**
21. **Electronic Frequency Inverter***



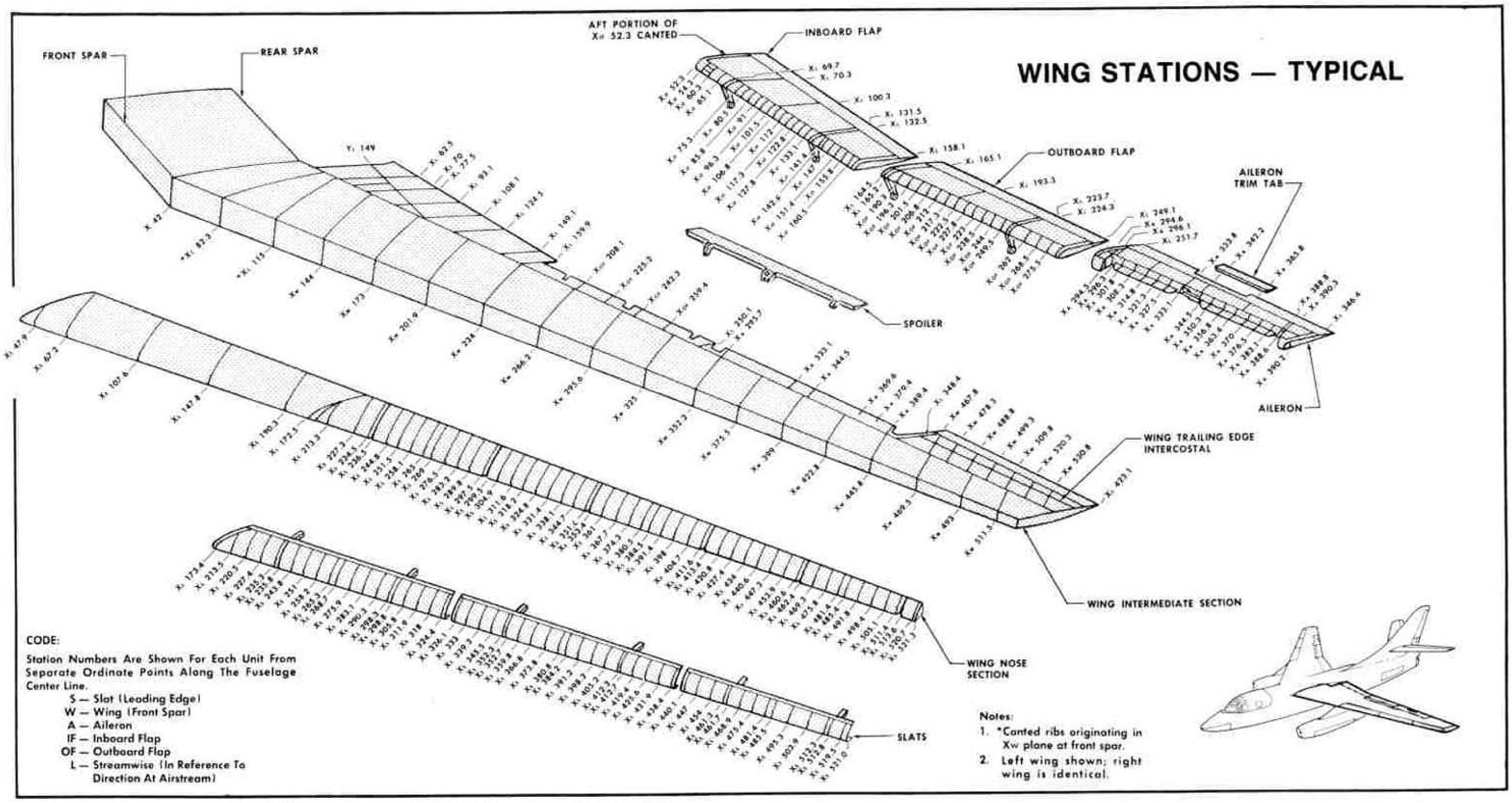
*** INVERTERS NOT USED ON AIRPLANES 56 AND SUBSEQUENT.**

MAJOR ELECTRICAL COMPONENTS — LIGHTS

1. **Pilot's Utility Light**
2. **Pilot's Floodlights**
3. **Thunderstorm Lights**
4. **Bombardier-Navigator's Utility Light**
5. **Flight Compartment Dome Light**
6. **Gunner's Utility Light**
7. **Bombardier-Navigator's Floodlights**
8. **Bombardier-Navigator's Table Light**
9. **Wing Navigation Lights**
10. **Formation Lights**
11. **Bomb Bay Lights**
12. **Aft Radar Compartment Lights**
13. **Tail Navigation Lights**
14. **Turret Compartment Lights**
15. **Fuselage Navigation Lights**
16. **Equipment Compartment Lights**
17. **Gunner's Floodlights**
18. **Landing Light**
19. **IFR Probe Light**



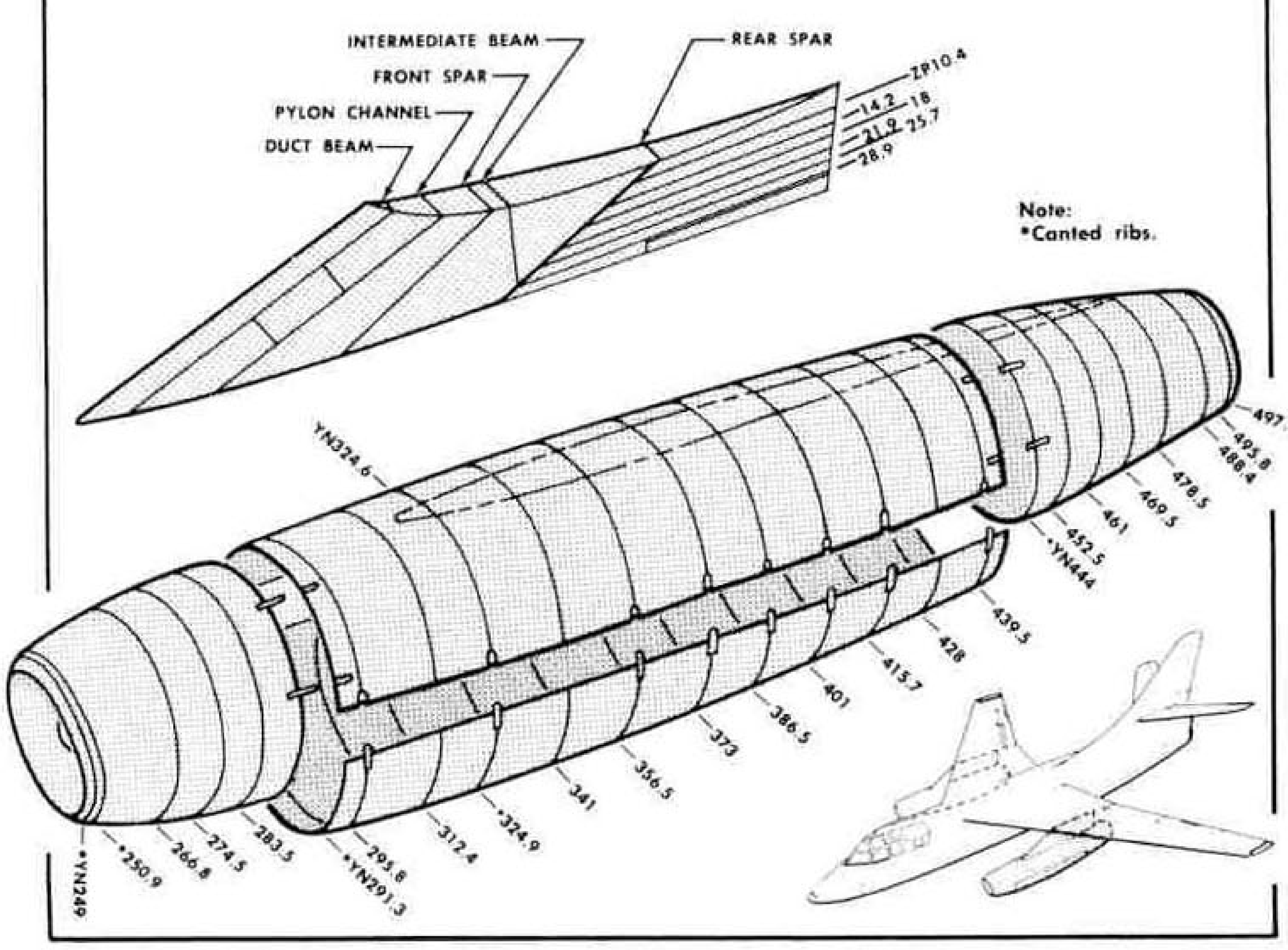
WING STATIONS — TYPICAL



CODE:
Station Numbers Are Shown For Each Unit From Separate Ordinate Points Along The Fuselage Center Line.
S — Slat (Leading Edge)
W — Wing (Front Spar)
A — Aileron
IF — Inboard Flap
OF — Outboard Flap
L — Streamwise (In Reference To Direction At Airstream)

Notes:
1. *Canted ribs originating in Xw plane at front spar.
2. Left wing shown; right wing is identical.

NACELLE AND PYLON STATIONS — TYPICAL

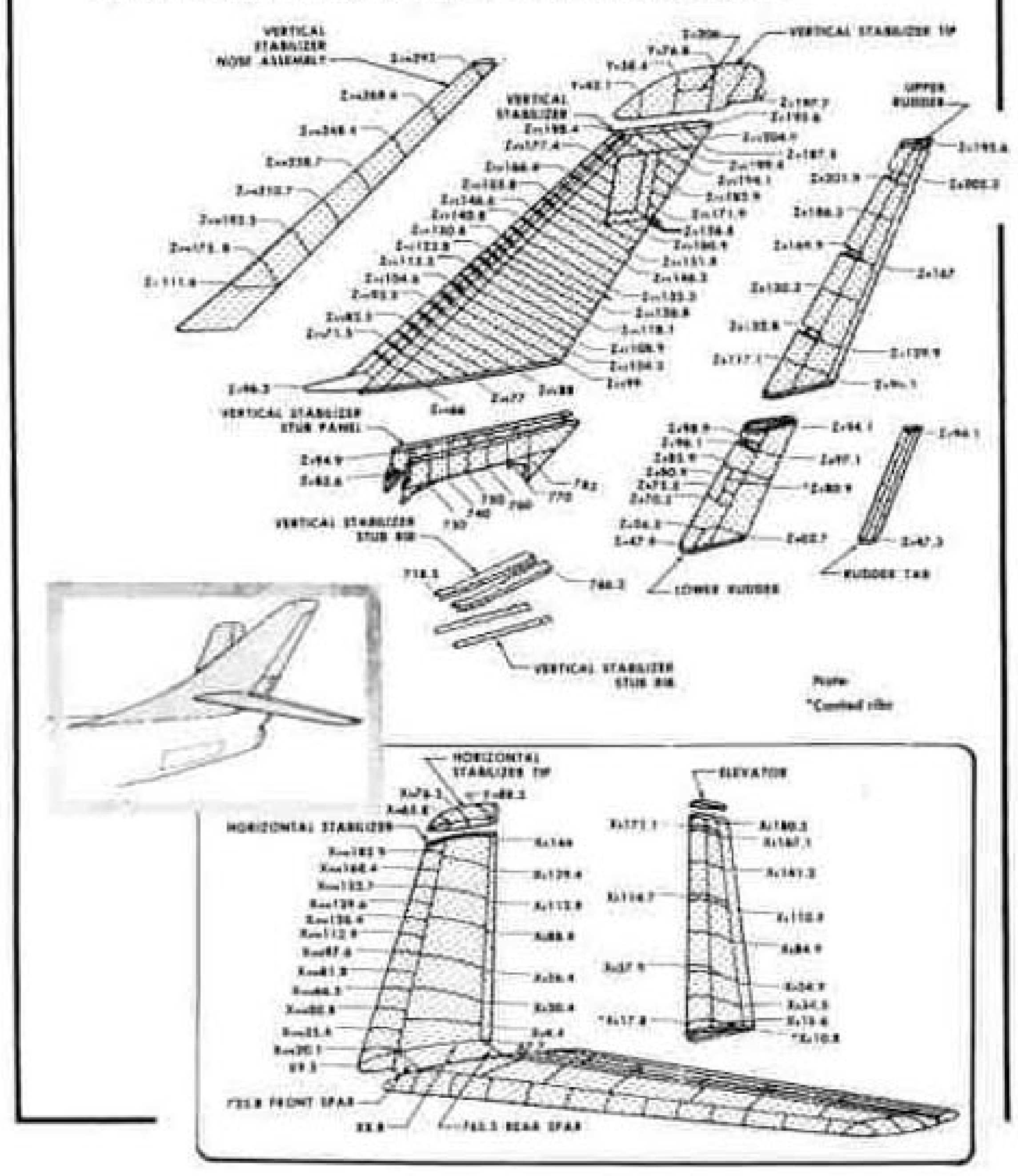


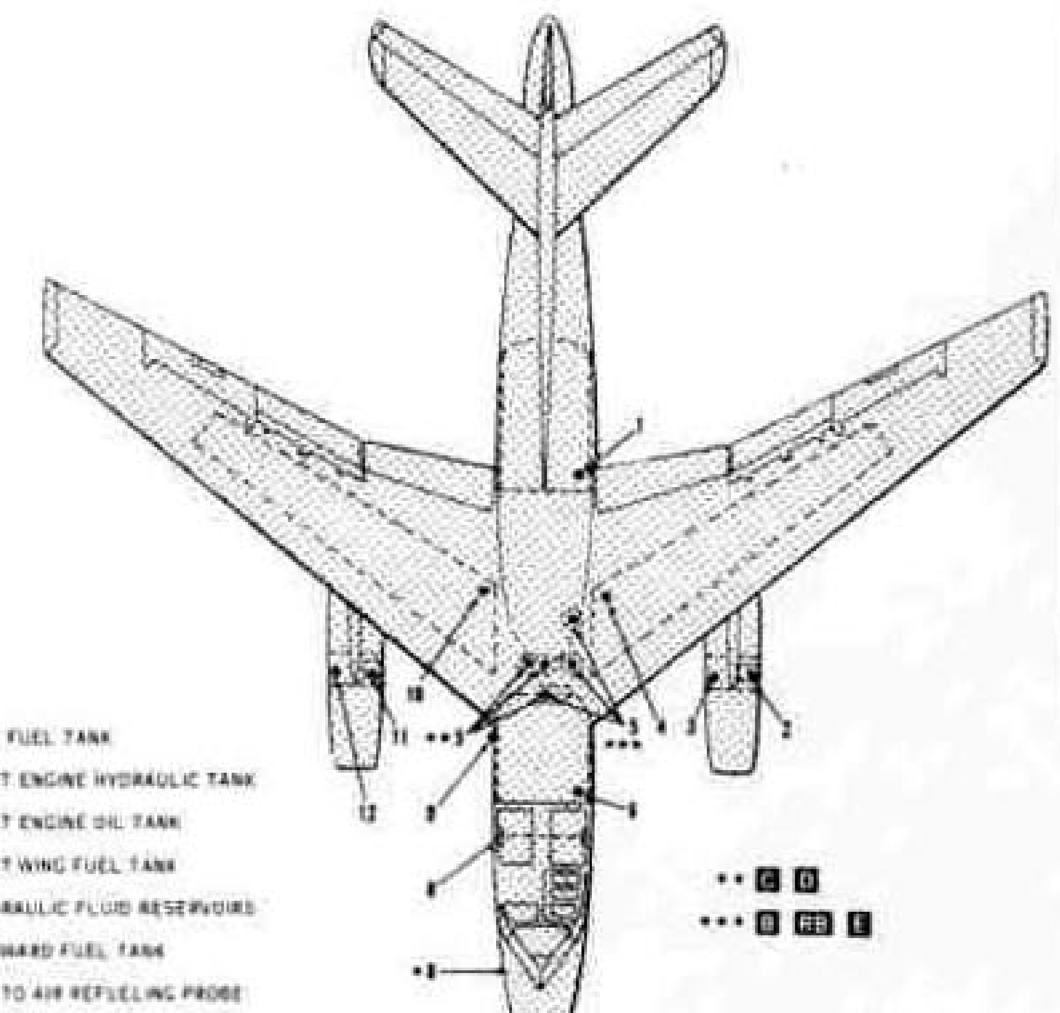
Note:
*Canted ribs.

SERVICING SPECIFICATIONS

USE	FUEL TYPE	GRADE	NATO SYMBOL	U.S. MILITARY SPECIFICATION	SPECIFIC GRAVITY (MAX-MIN)	FREEZE POINT
RECOMMENDED FUEL	WIDE-CUT GASOLINE	JP-4	F-40	MIL-T-5624	.802-.751	-72°F
ALTERNATE FUEL	WIDE-CUT GASOLINE	COMMERCIAL JET B	NONE	NONE	.802-.751	-56°F
	HIGH-FLASH POINT GASOLINE	JP-5	F-44	MIL-T-5624	.845-.788	-51°F
	KEROSENE	COMMERCIAL JET A-1	NONE	NONE	.829-.775	-54°F
	KEROSENE	COMMERCIAL JET A	NONE	NONE	.829-.775	-36°F
EMERGENCY FUEL	AVIATION GASOLINE (AVGAS)	80/87	F-12	MIL-G-5572	.706	-76°F
	PLUS 3% GRADE	91/96	NONE	MIL-G-5572	.709	-76°F
	1100 OIL	100/130	F-18	MIL-G-5572	.702	-76°F
		115/145	F-22	MIL-G-5572	.706	-76°F

EMPENNAGE STATIONS



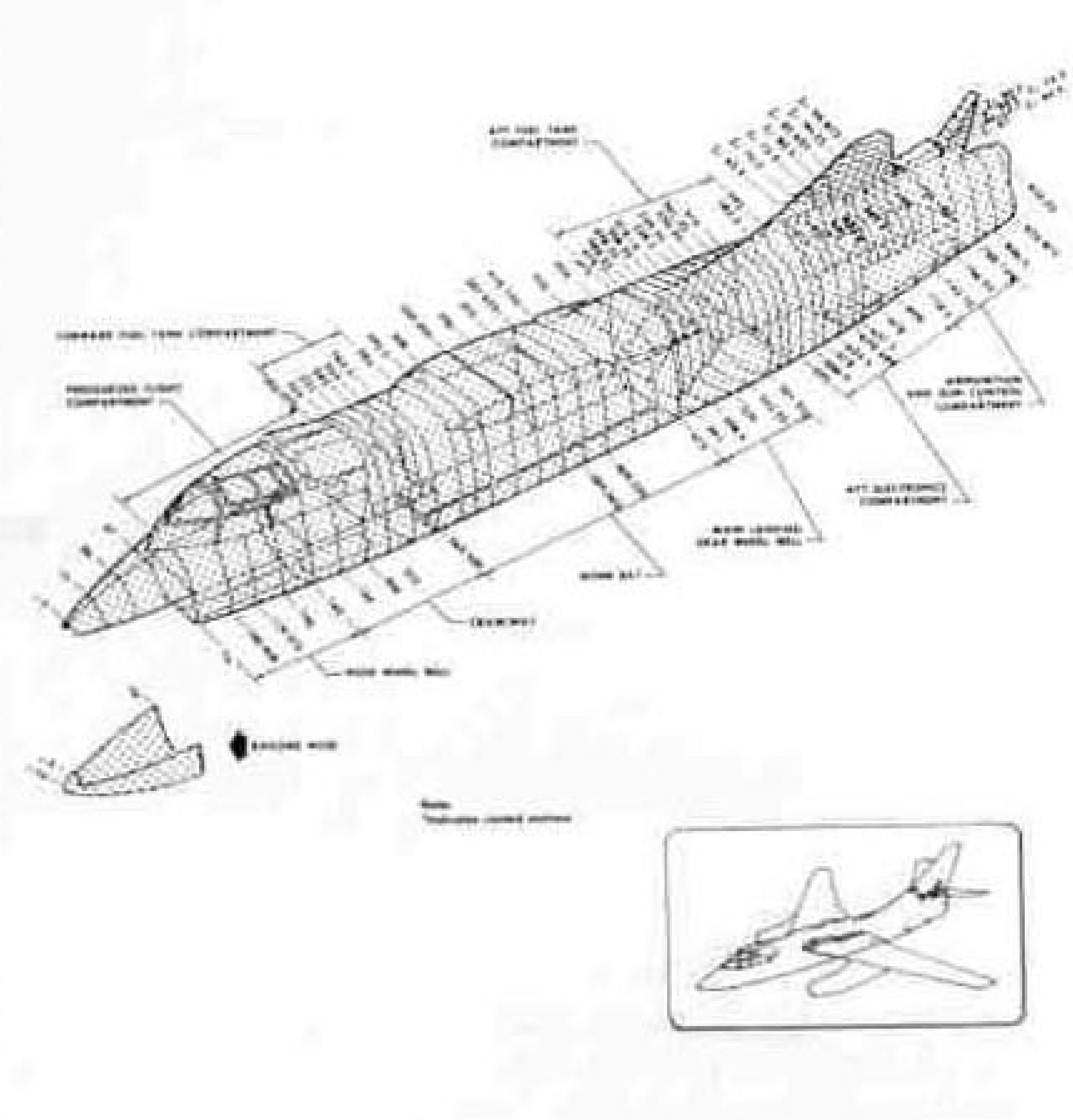


1. AFT FUEL TANK
2. LEFT ENGINE HYDRAULIC TANK
3. LEFT ENGINE OIL TANK
4. LEFT WING FUEL TANK
5. HYDRAULIC FLUID RESERVOIRS
6. FORWARD FUEL TANK
7. AIR TO AIR REFUELING PROBE
8. OXYGEN SYSTEM FILLER VALVE
9. SINGLE-POINT REFUELING ADAPTER
10. RIGHT WING FUEL TANK
11. RIGHT ENGINE HYDRAULIC TANK
12. RIGHT ENGINE OIL TANK

* SOME AIRCRAFT (NOSE WHEEL WELL)

SERVICING DIAGRAM

FUSELAGE STATIONS


AFT FUEL TANK COMPARTMENT
FORWARD FUEL TANK COMPARTMENT
PRESSURIZED FLIGHT COMPARTMENT
AMMUNITION AND GUN CONTROL COMPARTMENT
AFT ELECTRONICS COMPARTMENT
MAIN LANDING GEAR WHEEL WELL
BOMB BAY
NOSE WHEEL WELL

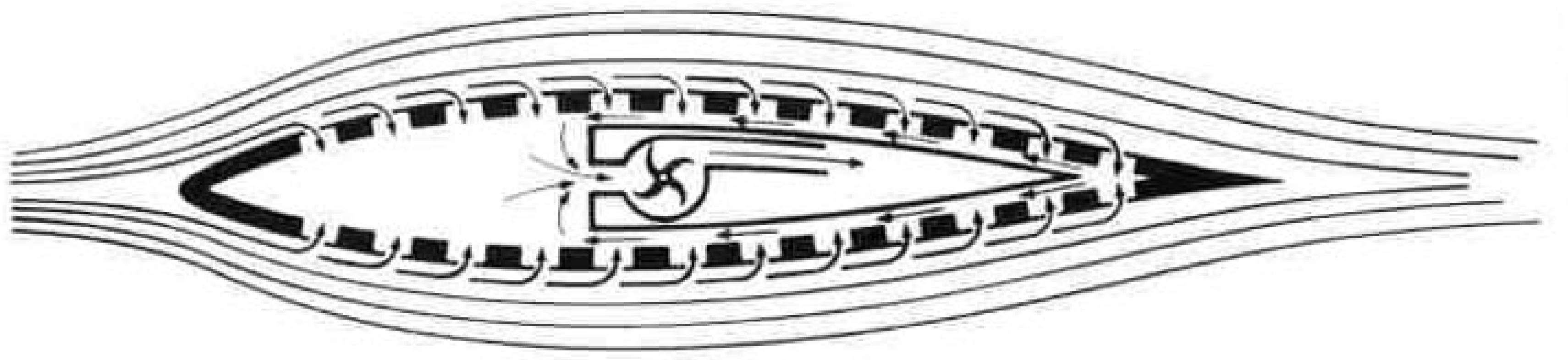
MAIN DIFFERENCES TABLE NO. 1

ITEM	RB-66C	B-66B	RB-66B	WB-66D
DESIGN MISSION	ALL-WEATHER ELECTRONIC RECONNAISSANCE	ALL-WEATHER BOMBER	ALL-WEATHER PHOTO RECONNAISSANCE	ALL-WEATHER WEATHER RECONNAISSANCE
ECM CAPABILITY	AN/ALA-5, AN/ALA-6 AN/ALE-1, AN/ALE-2, AN/ALT-6 or -6B, AN/ALT-7, AN/ALT-8 or 8B, AN/APA-74, AN/APD-4, AN/APR-9B AN/APR-14, AN/APS-54, AN/APR-8B	NOT INSTALLED	AN/ALE-1, AN/ALE-2, AN/ALT-6 or -6B, AN/ALT-7 AND AN/ALT-8 OR -8B, AN/APS-54	AN/ALE-1, AN/ALE-2, AN/ALT-6B, AN/ALT-7, AN/ALT-8B, AN/APS-54
ECM OBSERVERS COMPARTMENT	ACCOMMODATIONS FOR 4 ECM OBSERVERS-INSTALLED BETWEEN FORWARD AND AFT FUSELAGE FUEL TANK COMPARTMENTS	NOT INSTALLED	NOT INSTALLED	NOT INSTALLED
WEATHER OBSERVERS COMPARTMENT	NOT INSTALLED	NOT INSTALLED	NOT INSTALLED	ACCOMMODATIONS FOR 2 WEATHER OBSERVERS-INSTALLED BETWEEN FORWARD AND AFT FUSELAGE FUEL TANK COMPARTMENTS
BOMBING CAPABILITY	NOT INSTALLED	TWO 5000 LB SEMI-ARMOR PIERCING (DESIGN)	48 PHOTOFLASH BOMBS (DESIGN)	NOT INSTALLED
SPECIAL WEAPONS	NOT INSTALLED	PROVISIONS INSTALLED	NOT INSTALLED	NOT INSTALLED
K-5 BOMBING SYSTEM	NOT INSTALLED	NOT INSTALLED	NOT INSTALLED	NOT INSTALLED
WING TIP PODS (RADAR)	INSTALLED	NOT INSTALLED	NOT INSTALLED	NOT INSTALLED
BELLY RADOME	INSTALLED IMMEDIATELY AFT OF AIRCRAFT ENTRANCE DOOR	NOT INSTALLED	NOT INSTALLED	NOT INSTALLED
VERTICAL STABILIZER ISOLATION STRIP	INSTALLED	NOT INSTALLED	INSTALLED	INSTALLED

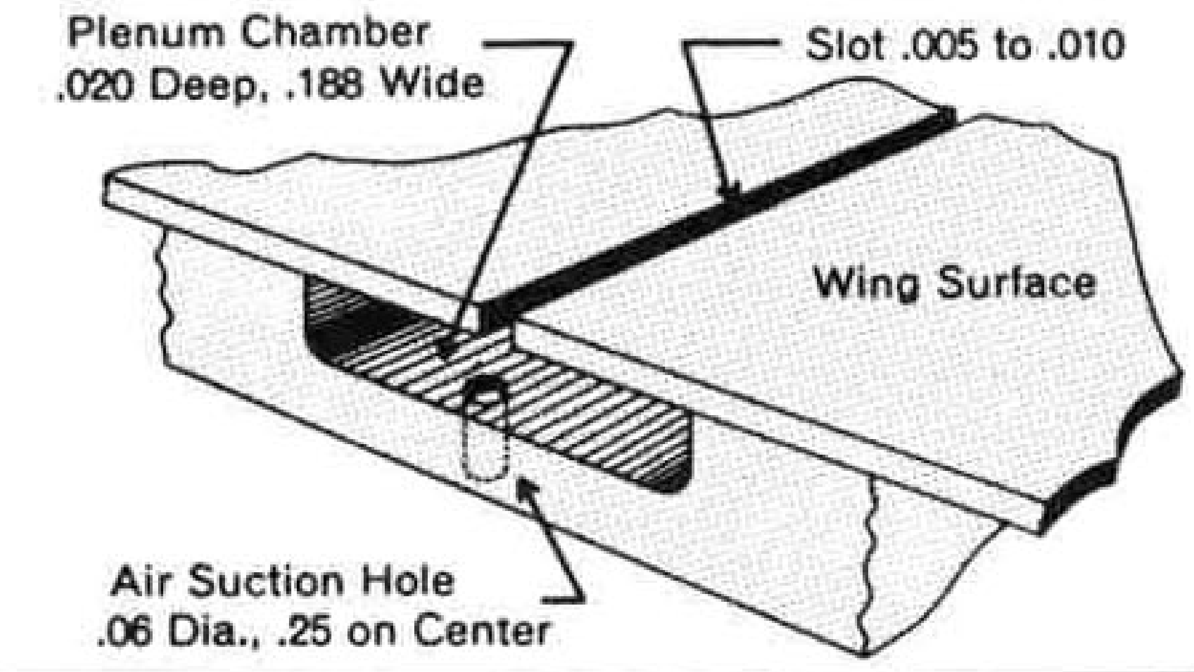
TABLE OF WEATHER RECONNAISSANCE EQUIPMENT WB66D

TYPE	DESIGNATION	USE	OPERATOR	RANGE	LOCATION OF CONTROLS
Radiosonde Dispensing Set	AN/AME-1	Radiosonde Ejector	Weather Observer No. 2	Not Applicable	Weather Observer Position No. 2
Radiosonde Receiver	AN/AMR-3	To receive and record data transmitted from the AN/AMT-6 radiosonde.	Weather Observer No. 2	Line of Sight	Weather Observer Position No. 2
Weather Cameras	P-220	Cloud Photography	Weather Observer No. 1	Optical	Weather Observer Position No. 1

LOW DRAG BOUNDARY LAYER CONTROL



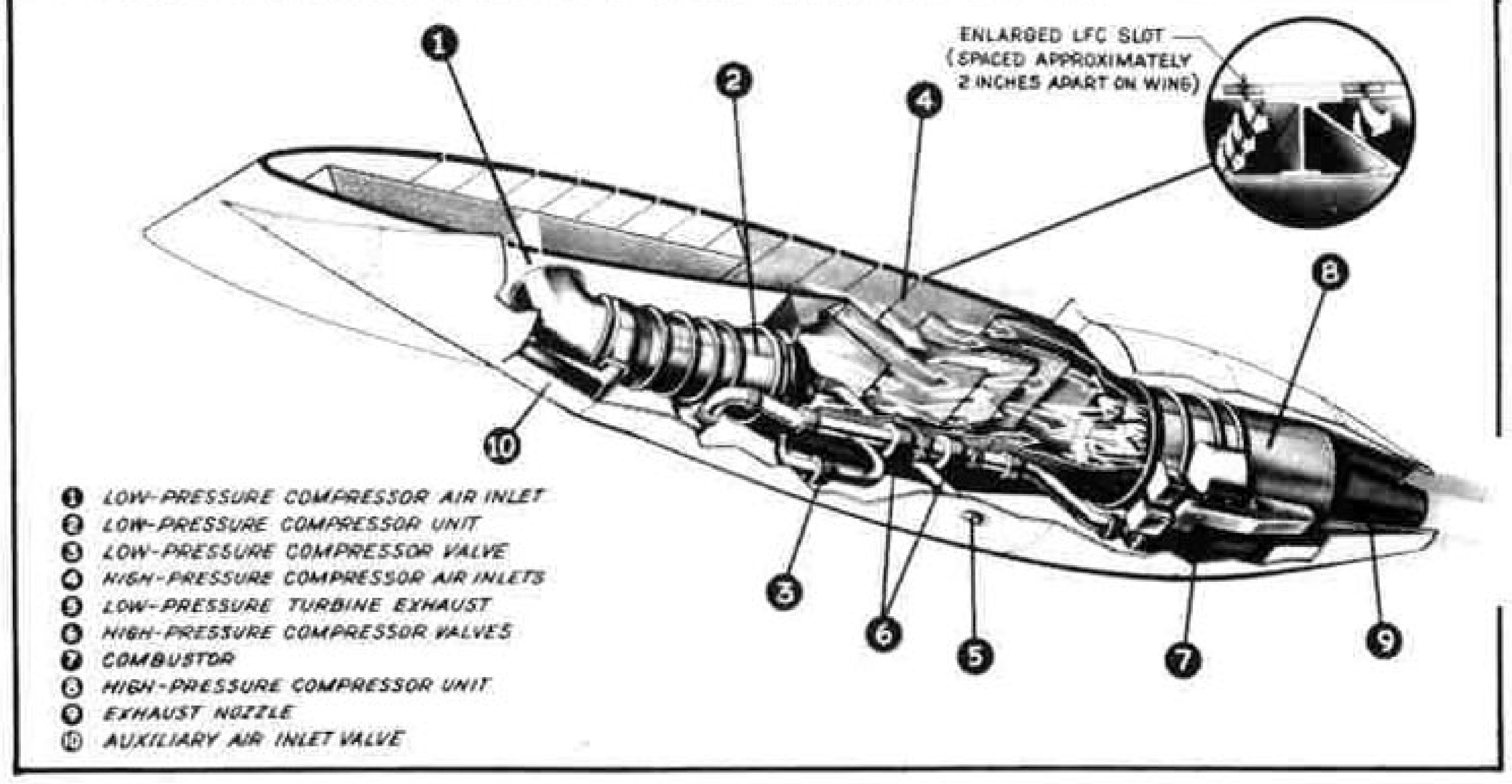
TYPICAL LFC SLOT



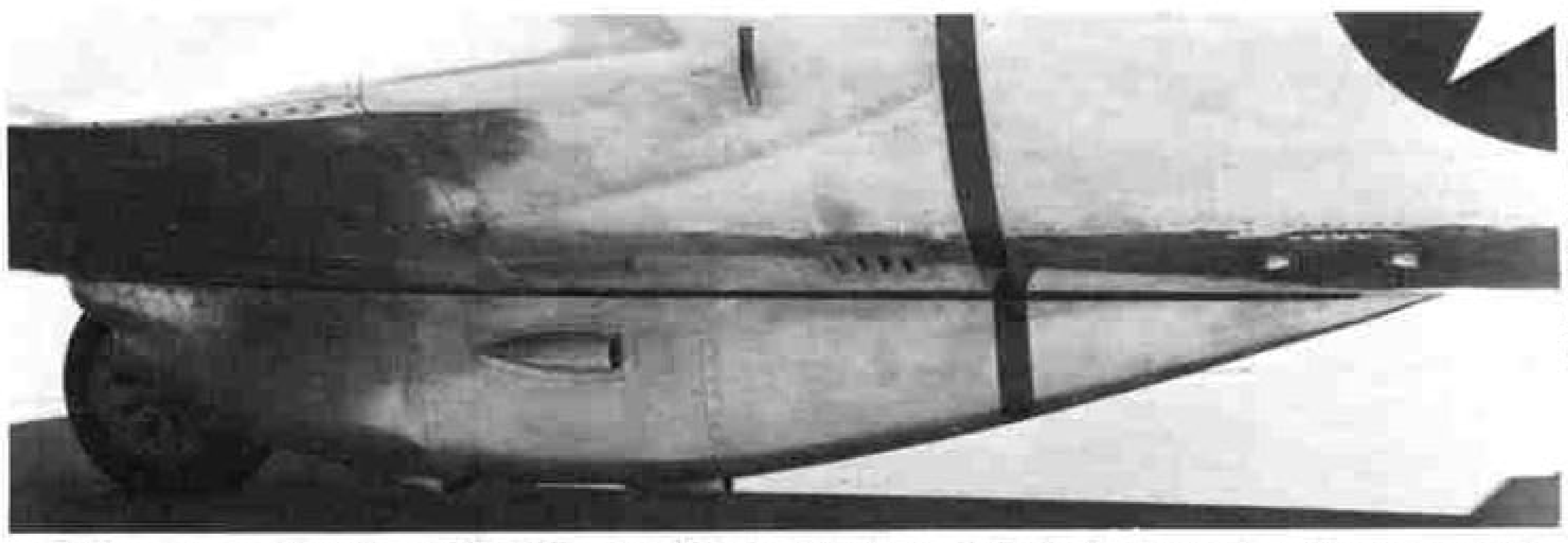
MDC

This Mobile Air Material Area pilot was wearing typical B-66 flight gear at the time of the photograph during August 1962. Aircraft nickname "Wild Child" on nose gear well door, is noteworthy. Also noteworthy is the pilot's use of two wrist watches.

AIRESEARCH LFC PUMPING SYSTEM


ENLARGED LFC SLOT (SPACED APPROXIMATELY 2 INCHES APART ON WING)
1
2
3
4
5
6
7
8
9
10
1 LOW-PRESSURE COMPRESSOR AIR INLET
2 LOW-PRESSURE COMPRESSOR UNIT
3 LOW-PRESSURE COMPRESSOR VALVE
4 HIGH-PRESSURE COMPRESSOR AIR INLETS
5 LOW-PRESSURE TURBINE EXHAUST
6 HIGH-PRESSURE COMPRESSOR VALVES
7 COMBUSTOR
8 HIGH-PRESSURE COMPRESSOR UNIT
9 EXHAUST NOZZLE
10 AUXILIARY AIR INLET VALVE

Northrop via Gerald Balzer



Northrop via Gerald Balzer

Before converting two WB-66Ds to X-21As, Northrop initiated a boundary layer control research program utilizing Lockheed F-94A, 49-2496, fitted with a special wing glove and a compressor mounted in a canoe beneath the fuselage.

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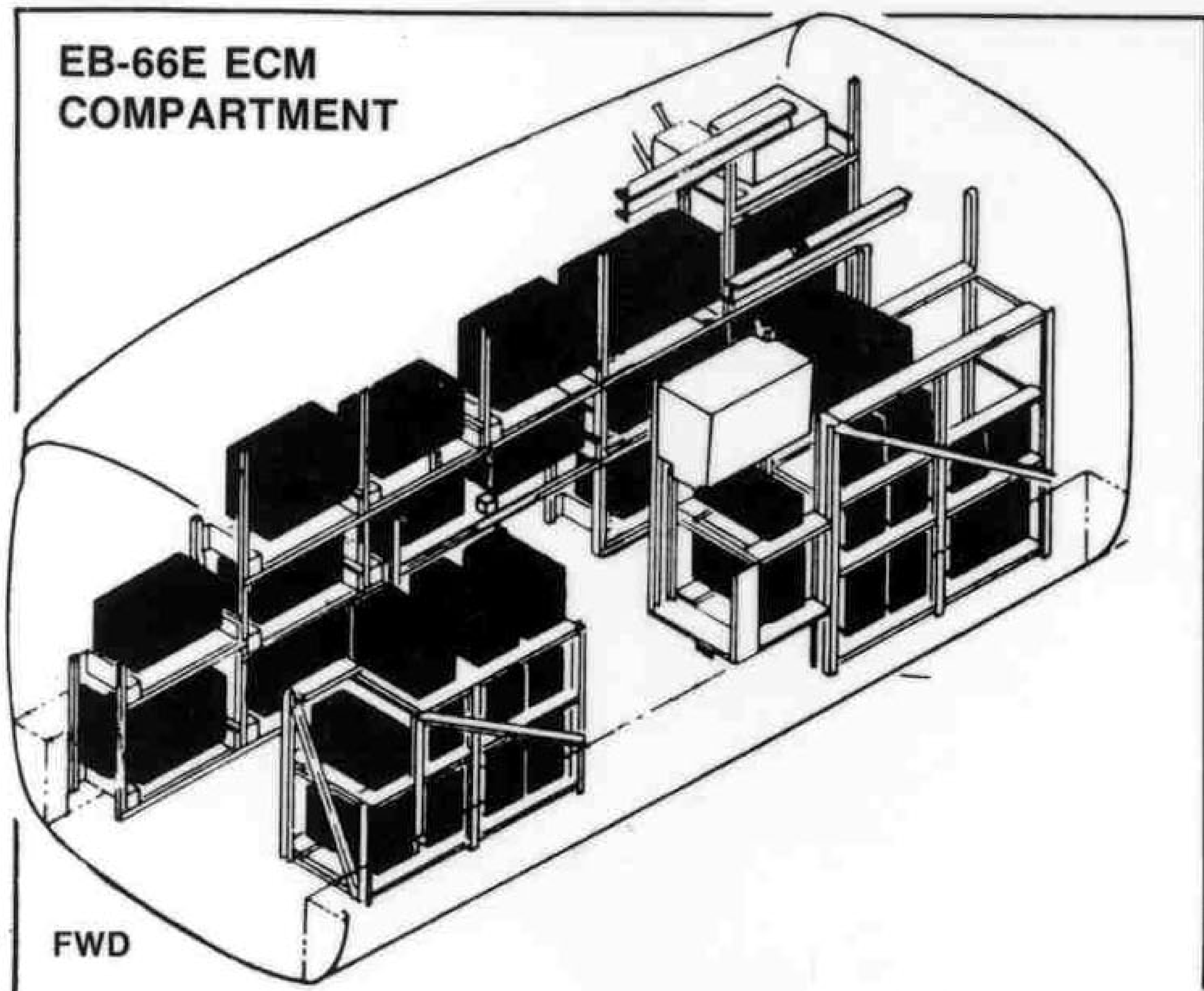
Jay Miller and the **AEROFAX, INC.** Editorial Staff

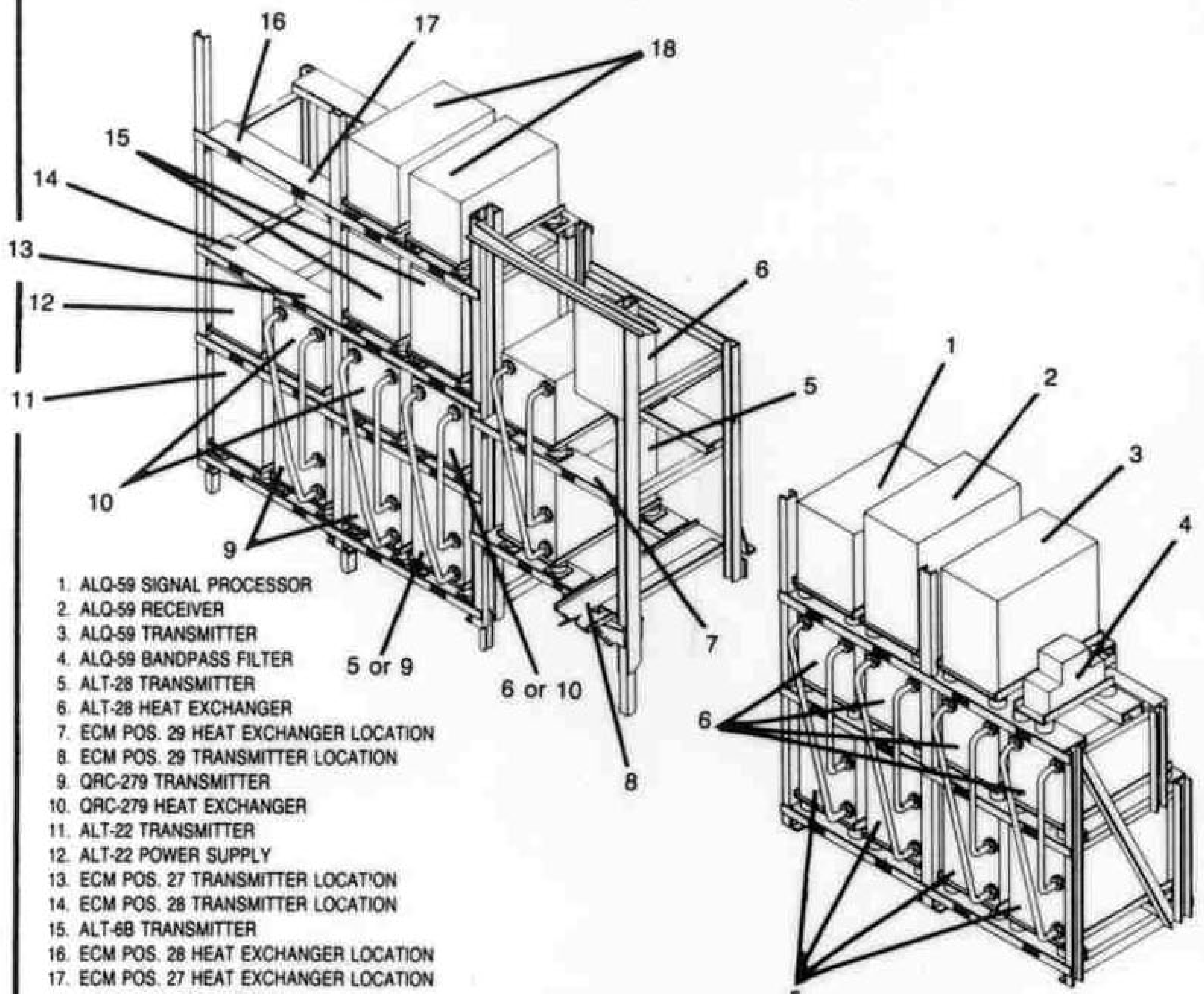
EB-66E ECM COMPARTMENT



MAIN DIFFERENCES TABLE NO. 2

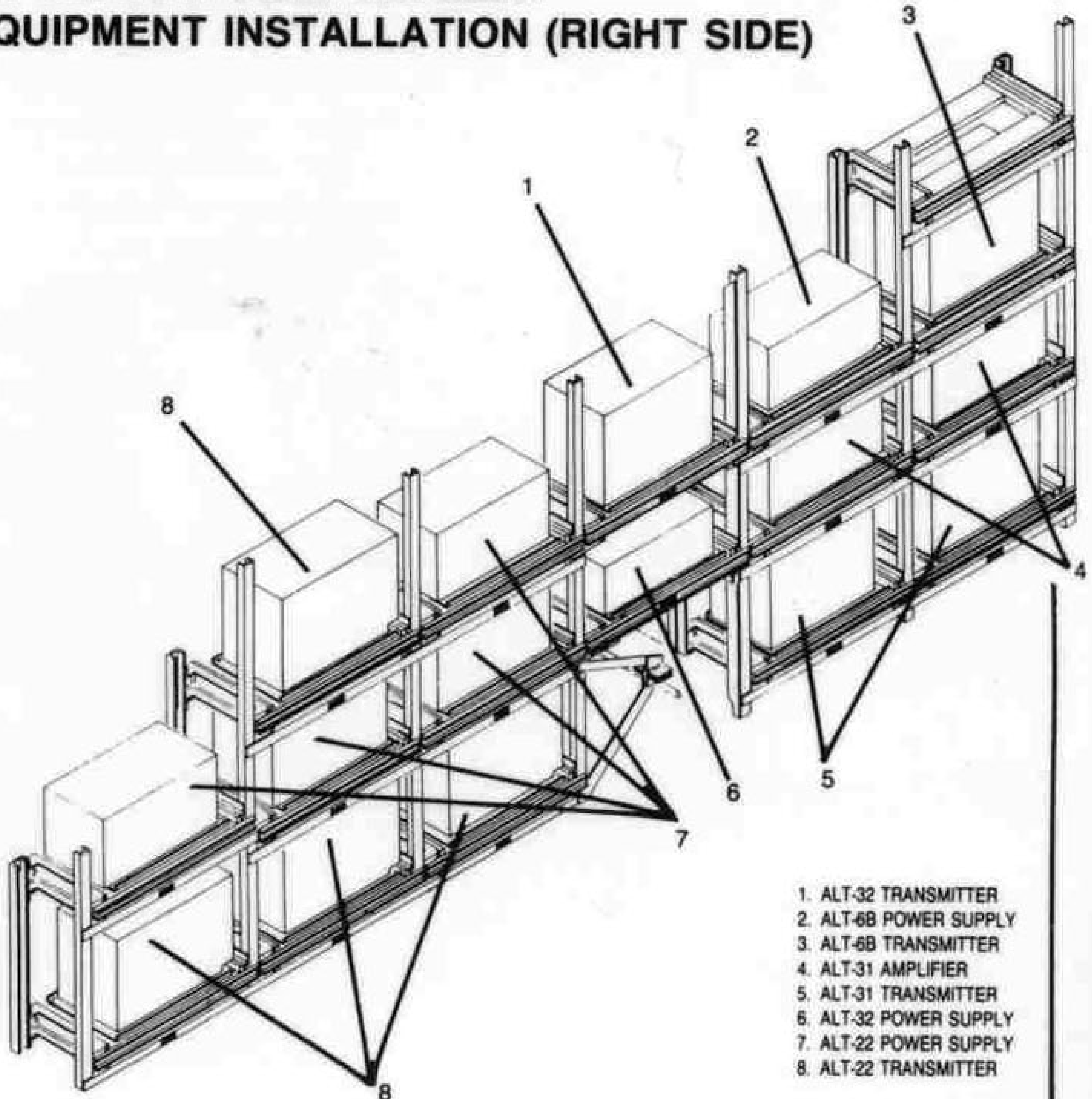
ITEM	B-66B	EB-66B	RB-66B	RB-66C EB-66C	WB-66D	EB-66E
DESIGN MISSION		ECM	PHOTO RECONNAISSANCE	ECM	WEATHER RECONNAISSANCE	ECM
ECM CAPABILITY		ACTIVE AND PASSIVE	ACTIVE AND PASSIVE	ACTIVE AND PASSIVE	ACTIVE	ACTIVE AND PASSIVE
ECM STATION		EWO IN FLIGHT COMPARTMENT	NAVIGATOR (ECM CONSOLE)	ACCOMMODATIONS FOR UP TO 4 EWO'S AFT CREW COMPARTMENT	NAVIGATOR (ECM CONSOLE)	EWO FLIGHT COMPARTMENT - RIGHT HAND SEAT
BOMB CARRYING CAPABILITY		NOT INSTALLED	PHOTOFLASH BOMBS	NOT INSTALLED	NOT INSTALLED	NOT INSTALLED
NAVIGATIONAL EQUIPMENT	K-5	K-5	AN/APS-27 AN/APN-82	AN/APS-63 AN/APN-82	AN/APS-63 AN/APN-82	AN/APS-27 AN/APN-82
WING TIP PODS	NOT INSTALLED	NOT INSTALLED	NOT INSTALLED	INSTALLED	NOT INSTALLED	NOT INSTALLED
BELLY RADOMES	NOT INSTALLED	NOT INSTALLED	NOT INSTALLED	FWD: STA 184-339 CTR: STA 465-595 AFT: STA 698-766	NOT INSTALLED	NOT INSTALLED

EB-66E ECM COMPARTMENT EQUIPMENT INSTALLATION (LEFT SIDE)



1. ALQ-59 SIGNAL PROCESSOR
2. ALQ-59 RECEIVER
3. ALQ-59 TRANSMITTER
4. ALQ-59 BANDPASS FILTER
5. ALT-28 TRANSMITTER
6. ALT-28 HEAT EXCHANGER
7. ECM POS. 29 HEAT EXCHANGER LOCATION
8. ECM POS. 29 TRANSMITTER LOCATION
9. QRC-279 TRANSMITTER
10. QRC-279 HEAT EXCHANGER
11. ALT-22 TRANSMITTER
12. ALT-22 POWER SUPPLY
13. ECM POS. 27 TRANSMITTER LOCATION
14. ECM POS. 28 TRANSMITTER LOCATION
15. ALT-6B TRANSMITTER
16. ECM POS. 28 HEAT EXCHANGER LOCATION
17. ECM POS. 27 HEAT EXCHANGER LOCATION
18. ALT-6B POWER SUPPLY

EB-66E ECM COMPARTMENT EQUIPMENT INSTALLATION (RIGHT SIDE)



1. ALT-32 TRANSMITTER
2. ALT-6B POWER SUPPLY
3. ALT-6B TRANSMITTER
4. ALT-31 AMPLIFIER
5. ALT-31 TRANSMITTER
6. ALT-32 POWER SUPPLY
7. ALT-22 POWER SUPPLY
8. ALT-22 TRANSMITTER